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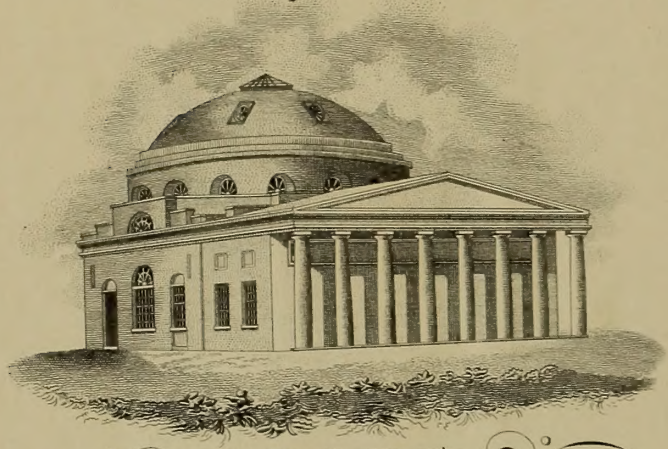

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

THESES

1875 (a)

Author	Title	Year	Notes
Murdoch, W. A.[1]	Hernia	1875?	(No title page)
Few, Columbus	Rheumatism of Children		
Johnson, Clarence S.	Eclampsia	1873	
Correll, Thomas A.	Diphtheria		
Hanna, Albert A.	Heat and Cold as Therapeutic Agents		
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Winchester, Benjamin T.	Acute Pneumonitis		
Parrish, William G.	Dipsomania		(No title page)
Arnold, William T.	Extraction of Teeth		(Noteworthy Illustrations)[2]

[1] Unable to find author in 1875 in sources referenced below.
[2] Pencil sketches of teeth extraction tools.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1875 (a)

Murdoch ~~Murdock~~, W. A.	Hernia (no title page)	16p. 1875?
Few, Columbus	Rheumatism of Children	28p.
Johnson, Clarence ~~C.~~ S.	Eclampsia	24p. 1873
Correll Thomas ~~Cornell, T.~~ A.	Diphtheria	43p.
Hanna, Albert ~~A.~~ A.	Heat and Cold as Therapeutic Agents	22p.
Rawlings, William ~~Wm.~~	Acute Lobar Pneumonia	26p.
Gimenez, Gabriel	Yellow Fever	31p.
Hitch, Samuel ~~S.~~ G. L.	Acute Pleuritis	26p.
Fenton, G. Aaron	Scarlatina	32p.
Burgin, Harvey ~~N.~~ F.	Menstruation	28p.
Emack, A. Frank ~~F.~~ Dulin	Acute Articular Rheumatism	36p.
Winchester, Benjamin T.	Acute Pneumonitis	35p.
Parrish, William ~~Wm.~~ G.	Dipsomania (no title page)	24p.
Arnold, William ~~Wm.~~ T.	Extraction of Teeth (note worthy [illegible]us)	41p.

Murdoch 1855

Hernia.

A Hernia is a protrusion of any organ or contents of a cavity but the term is generally used in protrusion of the contents of the abdomen. They are classed 1st as to point of protrusion as Inguinal, Femoral, Abdominal or Ventral, Obturator, Perineal, Vaginal, Labial &c or Internal abdominal when it takes place through the diaphragm. 2d as to part protruding which may be any of the contents of the abdomen with the exception of the pancreas as Enterocele, Epiplocele, Cistocele, Vesical &c. and 3d as to the condition of part protruding are classed as Reducible, Irreducible, Incarcerated and Strangulated. The [illegible] are 1st [illegible] and 2d [illegible]

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Of the predisposing causes [illegible] are [illegible]
[illegible] Congenital and Acquired
Congenital is regard to sex is much more
common in males than females and is
generally developed before the age of
[illegible] years and is more common by one [illegible]
upon the right side. Occupation [illegible]
[illegible] influence where any great straining
is required as in lifting heavy weight.
The disposition to hernia may hereditary
which may show in two ways. 1st by the
process of obliteration of the part of
peritoneum in the scrotum being [illegible]
[illegible] and 2d in the peculiar elongation
of the mesentery or there may be [illegible]
general defects in the abdominal wall
[illegible] there may be a general [illegible]
of the system. [illegible]

before they reach the point they divide
and which the lower fibres go to the pubes
the others go to its crest forming a triangular space with the pubes for its base
this is the external abdominal ring and
the lower fibres form Poupart's ligament
which does not run in a straight line but
curved with its convexity downward so that
when the thigh is flexed upon the body
it relaxes this ligament. Between the
two sides of the triangle or pillars of the
ring are situated some fibres the intercol-
lumnar fascia. The internal abdominal
ring is situated in the transversalis fascia
about half way between the anterior superior
spine of the ilium and the crest of the
pubes and about half an inch above
Poupart's ligament and between these two

rings the fibres of the internal oblique and the transversalis muscle each over the spermatic and forming the inguinal canal. From the transversalis fascia is given off the infundibuliform process which is prolonged upon the cord and testicle and is called the fascia propria. When a hernia is forming if it is to be an oblique hernia it begins by pressing a sac of peritoneum and bowel into the internal ring where it gets its first covering from the transversalis fascia and then passing under the transversalis and internal oblique it gets some of the fibres of the latter which forms the cremaster muscle and then passing through the external ring it gets the intercollumnar fascia of the external oblique for its next coat which with the

superficial fascia and skin forms six different coverings. Direct Inguinal hernia differs from this in that it does not pass through the internal ring but forces its way through the conjoined tendon of the transversalis and internal oblique directly to the external inguinal ring and so its coverings only differ in its having the fibres of the conjoined tendon instead of the cremaster muscle. The sac may [illegible] the [illegible] [illegible] [illegible] [illegible] [illegible] through by the intestine and [illegible] of [illegible] [illegible] and [illegible] [illegible]. The [illegible] [illegible] in shape and size according to the age of the sac. If recent the neck is usually narrow thin and transparent but in an old hernia may find it thinned from pressure. There may be no proper

contents be omentum

Treatment. Taxis. The manipulation process to return the protrusion. Place the patient [illegible] bent with the body bent forward and thigh slightly flexed and rotated inward to relax the muscle of the abdomen. The bladder should be emptied and tight clothing removed. Grasp the pancreas and extend or straighten it and try to work it up in the direction of the protrusion. This may be continued for some time if there is no pain or indication of mischief. Great care is needed that the pressure is in the right direction and is not continued too long or violently. A gurgling may be felt which shows that the contents are moving and the protrusion decreasing. If the patient is not under chloroform try to draw his attention from the operation. [illegible]

Auxilliary measures of the [illegible] is [illegible] acute light [illegible] and the patient [illegible] use [illegible] by the [illegible] or [illegible] a warm bath and by taxis while these. If these fail administer chloroform [illegible] for a short while and if it then fail operate. The following are some of the injurious effects of Taxis. If the parts are inflamed the inflammation is increased; peritonitis may be set up; the sac may be ruptured and the contents escape — the contents of the sac may give way — the sac with its contents may be dislocated and sac and all returned to the cavity of the abdomen and the stricture remain. The less taxis applied the better for the patient and the longer the operation is delayed the greater the mortality.

If the taxis is successful [illegible]

and bandage or truss with steel spring
not too strong with a flat pad. Enjoy
rest to prevent general peritonitis. Allow
the bowels to act for themselves and at
the first you may find a little blood.
Use no purgatives.

Operation for Strangulation. Salotomy or
Herniotomy consists in cutting down and dividing
the structure by either the old and original
way of opening the sac or by the later method
of not opening the sac. The patient is
put under chloroform and the part to operate
on exposed and shaved. The bladder is
emptied as the patient may micturate during
the operation. The incision is made over
the neck of the sac by making the skin tense
and making straight incision or by pinching
up the skin and cutting from within outward.

Inaugural Dissertation

on

Rheumatism of Children

by

Columbus Tool of S. C.

Dec. 11th 1853

Rheumatism

Definition a kind of shifting inflammation sometimes seated in the muscles, sometimes in parts surrounding joints, and at others within joints themselves, hence the name synovial, articular and muscular rheumatism. The disease may assume two forms acute and chronic.

Of the different forms of the disease as already laid down, I shall take into consideration acute articular rheumatism and its relations to childhood

Acute articular rheumatism is a constitutional disease generally characterised by an inflammation of the fibrous tissue in and around the joints. It is highly probable that this disease is much more common than has been supposed by some, prior to the age of puberty, though it is by no means so common as at this age as in adult life. Rheumatism is comparatively rare under five years of age, though not absolutely wanting. Billet and Barthez allude to a case occurring at the age of seven months

but the earliest age at which they must work it, was at four years in a single case. One great cause of the non recognition of rheumatism at this age is the difficulty in diagnosis. For while in the adult it is easy of diagnosis, it is likely to be overlooked in early life, as there is less redness and swelling of the affected parts, and a less number of joints implicated. If there be cardiac inflammation the articular symptoms are sometimes very much modified, thus rendering the diagnosis

more difficult. Admitting that rheumatism is the most prolific cause of valvular lesions of the heart, may we not infer that it is sometimes overlooked? from the fact that we sometimes meet with cases of valvular lesions, and on questioning the parents they will tell us, that the child has had a febrile attack, and probably it was treated for some inflammation of the thorax, when in reality it was a case of overlooked rheumatism.

Meigs and Pepper think it possible that the child

might be [illegible] with rheumatic endocarditis which yet in utero, producing some of the congenital malformations that are observed in the hearts of children. J. L. Smith gives account of several cases that were brought before the class at Bellview Hospital in 1874 suffering from aortic direct and mitral regurgitation numerous the parents not remembering them ever to have had rheumatism. The mother of one of the children stated at the age of twenty months the child had high fever for several days and was treated by the physician for

[illegible] of the [illegible]. Other [illegible] similar to the just stated are given by some authors and are sufficient to establish the fact of the frequency of the disease at this age.

Clinical Rotor.

Acute articular rheumatism [illegible] makes a very sudden invasion coming on in the majority of cases, when [illegible] [illegible]. Occasionally however, the invasion is more [illegible]. There is slight fever [illegible] [illegible] of [illegible] [illegible] which [illegible] arrives at its maximum of

Dissertation upon
Eclampsia

by

C. I. Johnson

Class of 1873

quite a confusion among
the authors who have
written upon the subject.
The confusion arising
undoubtedly from the mis-
application of the word
puerpera — they unhesit-
atingly apply it to all
diseases occurring during,
after, or before labor — for-
getting that it should
not be applyed to any
disease unless it occurs
during that state — and
is only produced during
its continuance; and also
by designating as convulsion

some affections that do
merit the [illegible]. Hysteria
tetanus, catalepsy and
apoplexy have been obs-
erved. [illegible]
and for that reason have been
denominated as puerpe-
ral diseases when in reality
they are identically the
same as when met in the
non-graved state. What
then is eclampsia, I [illegible]
dersland by the word
eclampsia and affection
characterised by a series of
fits, in which nearly all
of the muscles of relation

and often also those of organic life are convulsively contracted, and which fits are followed by a [illegible] less complete suspension of sensorial and intellectual faculties for a period more or less variable. Eclampsia proper is quite a rare affection — in 1000 cases of labor noticed by Vulpian — in not one was there eclamptic fits. While Collins observed thirty in 1644. It may occur during, after or before labor.

Causes.

These have been divided

alteration in the mind,
we can readily account
for the [illegible] of which
some authors speak as one
of the most important sy-
mptoms of eclampsia — for
it is a well known fact that
this general oedema is dep-
endent on an alteration in
the urinary secretion. The
question would here, naturally
arise — will every pregnant
woman suffering from alb-
uminuria be attacked with
puerperal convulsions? No, for
happily it is by no means
uncommon to find women

whose [illegible] is [illegible] [illegible]
ged with albumen to escape
entirely an attack of eclamp-
sia. The [illegible] in which
albuminuria acts; is the fol-
wing. It must as a natural
consequence diminish the
amount of albumen, which
enters into the normal consti-
tution of the blood - and when
the blood is thus altered it
causes an excitement of the
cerebro-spinal system which is it-
self the direct cause of the
convulsion - or by rendering
it more susceptible to external
excitements - or by excitation of

internal organs — the effects which under other circumstances would have no effect at all here, become so many determining causes. Under the head of determining causes we include those which act secondarily upon the cerebral centers. I will, do no more here than nearly mention the most important of them — such as the irritation of the nerves of the uterus, vagina, bladder, rectum and stomach.

Symptoms —

Madame Lachapelle describes three orders of phenomena

in the attack of eclampsia.
Precursory phenomena,
the phenomena of the attack,
and the termination of ecl-
ampsia. An attack of eclamp-
sia very rarely ever appears
unexpectedly, as there are almost
always such precursory
symptoms developed, as to
enable us to foretell an attack.
These precursory symptoms are
variable in duration thus
for some days, though occ-
asionally only for a few hours
before the invasion of the
puerperal convulsion the
patient complains of [illegible];

they are easily excited; they experience a change in respiration; they suffer from acute pain in the head, generally referable to a circumscribed space - which pain generally baffles all the treatment usually employed in such an affection. It is usually accompanied with vomiting, vertigo, tinnitus aurium, dimness of vision and sometimes by acute pain the epigastrium. When these primary symptoms continue for some time - the sensorial and intellectual faculties

become affected — the vision seems to be obscured by a thick mist, and the hearing becomes less distinct. In a plethoric female the pulse is full, slow, hard, and the face flushes — but if the patient suffer from anasarca, the pulse is small hard and contracted, the face is pale, the skin cold, especially the extremities. The respiration becomes noisy and jerking without any regular order. The effects of the convulsions upon the contractility of the [illegible]

is variable. During the attack the uterus sometimes remains passive, but there are cases in which the contractions continue with their normal regularity. Occasionally it seems to participate in the general disease, and expells the foetus quite rapidly, even when the slight dilatation of the os would indicate that the delivery was yet distant. The first fit is not very violent — but they are generally repeated frequently, and the gravity increases as the fits [illegible]

wrafted by the gentle zephyrs to the bosom of its God. Again an attack may not be grave enough to terminate in death but may give rise to some other disease. For instance; when the eclampsia occurs during labor, the violent contractions of the uterus may cause rupture of that organ when the os uteri is not sufficiently dilated to permit the escape of the foetus. Or the disorder produced in the circulation may give rise to congestion of the brain, and the conse-

- [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible]

upon to make his diagnosis. With what diseases may it be confounded?
In the paroxysmal stage — with hysteria, epilepsy and catalepsy — while apoplexy, concussion of the brain and the coma of drunkenness may be mistaken for it in the comatose stage. But the differential diagnosis may be easily made by taking into consideration the history of the case.

Prognosis —

Eclampsia is a very dangerous affection — but the prognosis

varies according to the cause which gave rise to it; to the stage of the puerperal condition at which they occur, and to the particular progress of the symptoms. Eclampsia which is produced by an alteration of the blood, by the presence of albumen is much more dangerous than that form of it which is produced by irritation of some internal organ. It is more serious when it comes on at the commencement of labor than when it is not [illegible]

[illegible]

Treatment—

The presence of albumen in the blood of a pregnant woman is an indication of eclamptic fits, and the best treatment we could use, would be that which would be most likely to remove the morbid product from the blood, or to lessen the renal affection which is the cause of the albuminuria. But unfortunately all the measures hitherto used in diseases other than puerperal have not been satisfactory. The [illegible]

treatment, [illegible]
[illegible] have [illegible] been more
successful than any of the
therapeutics measures employed
particularly during pregnancy
because a diminution of alb-
men is followed by a loss of
the solid constituents of the
blood. Again the puerperal
convulsions are most always
connected with cerebro-spinal
congestion — our object here
is to prevent this congestion
and for that purpose we
have blood letting, both
general and local. Cathartics
should be given in proper

[illegible] - shall we interfere with the contents of the uterus? If they occur during gestation the uterus should not be distorted - but if the convulsions comes on during labor. I think we would be justified in rupturing the membranes, if the os uteri is sufficiently dilated, and thus facilitate the labor. Or if the head is in the pelvis - we may make an attempt during the intervals of the paroxysms to effect the delivery by the [illegible] of the forceps - and thus perhaps save the life of the child if not that of the mother,

Thesis

On

Diphtheria

for the

Degree Doctor Medicine

by

Thos. A. Cornell

Baltimore City

Diphtheria

Definition.— Diphtheria is an acute febrile, moderately contagious and infectious asthenic blood disorder, occurring both endemically and epidemically; Exithout characteristic eruption, and distinguished by a disposition to the formation of false membrane upon inflamed mucous surfaces, especially on the fauces, or upon abrasions of the cutaneous surface.

Meigs & Pepper.

Synonyms.— Angina maligna, or gangrenosa; Cynanche ma-

ligna; Paralilla; Angina Suffocativa; Diftheritis.

Clinical History. — The term Diftheria or Diftheritis, first adopted by Bretonneau, of France; is derived from Greek Diphthera, a membrane. The term is equally applicable to Croup, which fact has led some to regard it as a Species of Croup; and it is very probable this erroneous belief has caused serious destruction of life. Croup is truly an inflammatory disease, while Diftheria is wanting in the essentials of acute inflammation.

The false membrane in Croup commences in the Larynx, and extends downwards into the Bisubes; the Diphtheritic membrane on the contrary, forms in the fauces, occupying the Pharynx and tonsils first; from which it extends upwards to the palate, and into the nostrils, and backward into Oesophagus, sometimes into Larynx and trachea, and even bronchi.

It is extremely probable that the disease has been often confounded with simple Pharyngitis in which inflammation of the tonsils and contiguous parts exist; but is

of ordinary acute character and tends to end in resolution or suppuration of the tonsils. Hence, no doubt, has arisen many of the vaunted syphilitic cures. The mucous surface beneath the false membrane, when exposed is of a dark red, and sometime purplish or claret color. The submaxillary and cervical glands are liable to become swollen, as well as the neck in front, which is sometimes full and oedematous, and an acid discharge, often bloody dietils

from the nose. Some uneasi-
ness of the throat or neck is
the earliest symptom of the
disease, yet some instances,
more or less general, undefin-
able disorder is complained
of for a day or two before there
is any appreciable disease of
the throat. In some cases,
the attack is suddenly announ-
ced by pain or soreness in
the throat, and a feeling of
overpowering prostration, caus-
ing faintness or actual syncope.
The symptoms vary greatly in
different cases. Another class
of cases, the onset is very

[illegible]. The prominent symptoms are disproportionate to the gravity of the attack. No alarming symptoms may appear, at all, the patient not seeking medical advice till the fatal termination has nearly arrived; strong evidence of profound blood alteration. There is a degree of chilliness, with rigors, often slight, succeeded by more or less fever, headache, languor and anorexia. Still, the patient, if not enough, continues to walk about as if affected with a slight and temporary ailment. The incon-

sion, in other cases is abrupt and severe. Great febrile reaction, headache, pain in the ear, ache-ing of the limbs, and loss of strength compels the patient to take the bed from the first. If examined now, the fauces present a pale, at purplish red appearance, some swelling; the tonsils are somewhat enlar-ged, as well as uvula, while the soft-palate at its body is thickened, all presenting a pale-red at purplish-red appearance. Exudation is sometime found on the first day of the disease usually

an Second, at this early period, patches of a dingy of a dingy white incrustation may often be seen on tonsils, uvula, and velum palati simultaneously, at only one of these organs. These patches rapidly coalesce, and extend to the Pharynx at as before stated into Larynx and Trachea. There is frequently a discharge of bloody serosity from the nose, and mouth, Bretonsaw has called attention to the fact, that, it may commence at the nose, and extend in an insidious manner, and thereby,

occasionally; more or less difficulty of breathing attends, and there is often hoarse cough, slightly ringing, short and spasmodic, independently of laryngeal complications. Deglutition is sometimes difficult and attended with pain exceedingly violent; and not infrequently, in attempts to swallow fluids, they regurgitate through the nostrils, or into the larynx, causing strangulation, more or less severe. The fever which attends is of a typhoid character and tending rapidly

ly to a fatal depression of the vital powers. The absence or mildness of the local symptoms is the main reason why the disease is so often overlooked in its first stages. The symptoms of invasion have little prognostic value. A severe onset attended by delirium, often terminates in health; on the other hand, the milder commencement frequently ushers in a fatal form of the disease. Smith cites a case illustrative of the latter point: A little girl had been ailing for

a few days, and had the external Cervical Swelling, but continued about the house and amused herself with Playthings, even jumping the rope a few times on the day of her death. Finally she sank rapidly of exhaustion, dying before a physician could arrive. The tongue is covered with a moist fur. West speaks of a peculiarity of the tongue, when there is much deposit; he describes it as being.- red at the tip, but thickly coated with white fur, which on the dorsum,

and, towards the root of the tongue is almost membraniform. Appetite is poor; bowels regular or constipated. The Pulse varies greatly in volume and frequency; usually frequent but weak and compressible; often full and strong in first few days. Rarely vomiting. Urine scanty, frequently albuminous, and upon microscopic examination is found to contain renal epithelium, and casts from renal tubules. The question as to what bearing, albuminuria has upon diphtheria is by no means settled. Smith (J. S.) says:

Albuminuria in Diphtheritic patients is in the present State of our Knowledge, rather a matter of Scientific interest than of practical importance. Bouchat and Empis regard it as a highly unfavorable Sign, coinciding with very great gravity of the disease; and Stade believes that the quantity of albumen is usually in direct proportion to the retention of Effete Material, and that indications of impairment of renal function are almost constantly precursors of a fatal termination. Meigs & Pepper Expos

themselves as follows: There can be, however, little doubt of the grave import of its appearance, though as yet its exact significance has not been accurately defined. Hillier examined 38 cases (Scores) in regard to this point, and found albumen present in 33, 32 of which proved fatal, while of the five free from albumen all recovered. West States; that, the presence of albumen in the urine is not accompanied with diminution in the quantity of secretion, nor with any other change in

its character such as would be obvious upon a cursory examination, for it still continues pale in color and acid in its reaction. The albumen seems also often to disappear at a very early period of the disease; its disappearance takes place suddenly, and though its presence is usually observed in cases where the disease is severe, yet there does not seem to be any connection between the urine becoming non-albuminous and the disease assuming a milder

Upper. I regret exceedingly that I have not the views of my esteemed Teachers Professors Howard & Mc Sherry, upon this important Subject; but a severe indisposition prevented my attendance upon Lectures at the time the respective lectures were delivered.
The albumen makes its appearance during the attack, from 4th – 7th day. Bouchut has known it to persist after convalescence, and finally produce Anasarca and Hydrothorax. The amount of Urea Excreted

is usually increased. In a very small proportion of the cases an eruption, resembling that of Scarlatina appears at irregular periods in the course of the disease. It appears, however, that this eruption lacks the punctated appearance of the true Scarlatinous rash; does not appear at any fixed period; is irregular in its progress, and is not followed by desquamation. The fatality of these cases varies widely. If the result is to be unfavorable, the depression and loss of strength increase rapidly; the surface

grows pale and sallow, and is below the normal temperature; the pulse becomes exceeding frequent and feeble; the fauces assume a gangrenous appearance from decomposition of false membrane; the swelling of the cervicle glands increases, and the patient often refuses to make the effort to swallow, though deglutition is generally possible; there is a constant fetid discharge from the mouth and nostrils; the breath is horribly offensive; and death ensues amid the most profound prostration. At a

much earlier period of the disease the fatal event may be precipitated by the extension of the exudation to the Larynx.
If on the other hand, the case tend toward recovery, the false membrane is thrown off, the strength improves, the pulse becomes fuller and stronger, and the appetite returns. Complete recovery may occur within a few days, less indeed than a week, but in others and perhaps a majority of favorable cases, weeks elapse before the health is completely restored. When

the disease is so protracted, the pseudo-membrane is detached slowly, or being detached, it is reproduced again and again. In these lingering cases the countenance bears the appearance of a market cachexia, the appetite remains poor or capricious, the features are pallid, the body more or less wasted, and the strength reduced. There is a still more severe group of cases, than those above sketched, the symptoms are of the most asthenic or malignant type. In these cases the anginous affection, though it may be severe, rarely attracts much attention. The memb.

in the fauces are soft and puffy, and when examined microscopically, highly corpuscular and granular; they soon decompose by the (and become discolored) blood which exudes from the mucous membrane. There is, moreover, a strong disposition for the exudation to extend to the posterior nares, or cutaneous surface. The breath and discharge from the mouth and nostrils are indescribably fetid. In some cases true ulceration and gangrene of the fauces occurs. There is, however, less pain complained of, and less

indisposition to swallow than in many lighter cases, owing probably to the depression of the nervous centres from the poisoned state of the blood. There may be high fever during the first few days, but this soon disappears, and is reproduced by a deadly pallor of the surface; extremely feeble running pulse; and at times low muttering delirium. In these lingering and dubious cases, all hope of recovery is dissipated by occurrence of abundant hemorrhage from the mouth, nostrils, rectum or

throat in consequence of detachment of the pseudo-membrane and rupture of Capillaries.

The duration varies considerably. Ordinary cases recover in about seven, eight or nine days, whilst more severe attacks are often protracted until and of the second week. Perhaps, however, fourteen days might be fixed as the maximum duration of those cases which terminate fatally by extension to the air passages; and from sixth-tenth day, greatest number die from all causes.

most rapidly fatal of all, and from laryngeal Complication, from 24-36 hours from commencement of attack.

The effusion may produce death, but it may be defined for weeks & months. Recovery may also be endangered by these same.

The most common sequel is Paralysis; either partial or general. It comes on usually two or three weeks from the subsidence of the inflammation. The muscles of the Pharynx are most frequently affected, causing dysphagia.

The mucous membrane has

recovered to normal appearance,
the nerves only are affected.
The bulbum palati hangs motion-
less like a curtain. It may
affect the motor muscles of
the eye, causing Strabismus;
or the accommodating muscles,
causing, presbyopia, myopia,
diplopia, amaurosis, dilatation
pupils, and feebly sensation to
light. This impairment or
paralysis of vision gradually
disappears as the vigor of the
system returns. May cause
Hemiplegia, or Paraplegia.
In some cases bladder is par-
alyzed, leading to retention of

lungs. Death is sometimes produced by paralysis of the heart or muscles of respiration.
The mortality varies in from one week to several months, more usually about a month.
The etiology of diphtheritic paralysis is not fully ascertained.
Causation.— The causation of diphtheria is not by any means settled, nor is it established that it is, or is not, contagious. It is unanimously admitted to be epidemic, and occasionally endemic; and moderately contagious and infectious by inoculation.

It appears to prevail with equal severity in healthy and unhealthy situations; and at all seasons. The majority of cases occur between one and eight years. Sex exerts no influence.

Pathological Anatomy.—

The first departure from the state of health doubtless occurs in the blood, but the exact changes which the fluid undergoes, have not been fully ascertained. The most constant and striking phenomena is the Pseudo-membranous exudation. From the very commencement of the

attack, the mucous membrane of the fauces and tonsils is of a deep red color; in others is of dusky red, which indicates a vitiated state of the blood. As the disease advances the exudation becomes more abundant; and forms a firm pedicle of grayish or grayish-white color. It is usually disposed, at first, in patches, more or less circumscribed, often elevated in the centre, but thin and flocculent at the ~~circum~~ circumference. These patches increase in extent, more or less rapidly; sometimes, in the course of a few hours the whole of the posterior fauces becomes covered with them.

They are at first thin, but become increased in thickness, by successive depositions, and acquire, after, so much firmness, as to permit them to be detached entire from the mucous membrane, to which they adhere by numerous minute filaments that appear to penetrate the orifices of the mucous follicles. These detachment is generally followed by more or less free flow of blood from the denuded membrane, and ruptured capillaries. In the course of the disease, the color of the memb. changes from grawish white, to a dirty brown, and its exposed surfaces

is uneven and jagged from the partial separation of sheds and fibres. The escape of the liquor sanguinis from the engaged vessels diminishes somewhat the turgescence of the inflamed tissues. If this, considerable, the memb. after sinks below the level of the surrounding surface, producing an appearance very much like that of an ulcer, or even gangrene. There is increased secretion of sitiva, discolored by admixture of blood, offensive odor. The microscopic appearances are the ordinary elements of corpuscular lymph; exudation cells, or even pus

corpuscles, granule cells and free fatty granules, and more or less abundant interlacing fibrillae, mixed with epithelial cells. The false membrane is separated by the formation of pus between it, and healthy parts. An ulcer remains which rapidly cicatrizes. In many, perhaps a majority of cases, however, it does not separate in mass, but by progressive liquefaction. Blood is of a dark red color, sometimes almost brown. Has been compared to prune juice. Erwicte glands enlarged and indurated.

Prognosis.— In ordinary cases, when patient is seen early, and the disease is limited to Pharynx, the prognosis is usual-ly favorable. Sporadic cases favorable, or cases occurring at the close of an Epidemic. No cases free from danger. Laryngeal and nasal com-plications prognosis very poor. If Exudation extend to cutaneous surface, unfavorable. Abnormal slowness, or great acceleration of pulse; marked prostration, countenance pallid and cool-ness surface; great tumefaction cervicle glands; abundant

pseudo-memb., pultaceous and
rapidly decomposing; hemorrhages
from various mucous surfaces;
intense and persisting albuminur-
-ia, with diminution of amount
of urea excreted; & render the prog-
nosis unfavorable. No one of these
symptoms or even combination of them,
is necessarily of fatal import. Extreme
youth & renders prognosis grave.
Secondary form more fatal than
primary.

Diagnosis.— Scarlatina.
Absence of the exception; in
Diphtheria its presence the excep-
tion, also without punctated appear-
-ance peculiar to the scarlatinous

Eruption. 4. Death from heart-
failure usually preceded by marked
cerebral disturbance, by delirium
tremens, or profound insensi-
bility; in Typhus the pulse
seems generally far less steady,
and even in its worst forms, is
usually remarkable for the
perfect clearness of the intellect
almost to the last. 5. Urine. — Not
always diminution in amount,
nor constant change in character
when albumen is present; it occurs
at early part of the attack, and increases
as disease approaches its height; or
may disappear suddenly, even in
the early part of its course.

4th Dropsy rarely follows diphtheria; whilst various Paralytic phenomena are scarcely ever noticed after Scarlatina. 3rd They exercise no protective power whatever against each other. Scarlatina and Diphtheria through presenting many points of striking resemblance, are entirely and essentially [illegible] distinct diseases.

Treatment. When the Exudation shows a disposition to extend to the Larynx, or when there is much difficulty of breathing from tumefaction of the fauces, or from accumulation of the pseudo-membrane deposits,

Emetics are useful. Alum and Ipecac are highly recommended. All high Authorities agree upon the abandonment of all depleting measures, and all Efforts are directed to promoting the nutrition of the patient and Supporting the Strength of the System, as indicated by the marked tendency to prostration, the feeble pulse, and the manifest deterioration of the blood. There is no Specific remedy for Diphtheria. Remedies most highly Spoken of are: Quinine Sulp, various preparations of

Chlorine, Iron, Bark, given singly or in combination. Hydrochloric acid or Chloric Ether; Muriate ammonia; Oleum Terebinthina recommended in large doses, both for its Strengthening effect; and from its tendency to promote the absorption of lymph in adynamic states of the system, where Mercury can not be given. Beef Tea, Animal broths, are strongly called for. The Sulphites are lauded by Palla of Milan, but their value has not been determined. They are given as against the Sulphurets

fermentative processes going on in the Economy. Local Tract. The Efficacy of local Measures is almost universally admitted. The most important of which are; the Ammoniuret of Copper R Cupri Sulp gr xxv Aqua ammonia f. ℥ss m. apply with a mop or camels hair brush every 12-14 hours. Argent nitras x-LX gr Aqua ℥j. application of Hydrochloric acid, powdered alum, tannic acid and Chlorinated lime are lauded by high authority. Sine Ferri Chlor and Ferri Perchloridum are among

the best preparations, either pure or diluted. Besides the local remedies which have been alluded to, others will be found useful, such as, Mild detergents, and Stimulating gargles, Tr Ferri Chlor. Acid Hydrochlor, Sol Chlorinated Soda in proportion ℥iv-quo ℥oj. Strong Solution Potass Chloras. The free internal use of Ice is grateful and beneficial. External applications of poultices or Sponge-piline fomentations are of Service. In nasal complications, injections of Medicated fluids through a Thudichums nasal douch highly beneficial

February 10-75

At this, the eleventh hour, a laughable article in the Virginia Medical Monthly upon the, Cause and nature of Diphtheria with a review of the Bacterium Theory, by J. Lewis Smith of N.Y., falls into my hands. Of course I can do no more than take a cursory glance at this late hour. The bacterium spoken of are the Spore-bacterium, or as Klein designates them, Micrococcus, and the micro-bacterium. The principle points supporting this theory are, that they are found in all cases of pseudo-membranous diphtheria, with smaller numbers of other kind

ordinarily they increase in proportion to the gravity of disease. On other hand, in diseases absolute, these bacteria disappear, and other forms succeed.

These organisms are not found in corpuscular membrane, produced by powerful chemical agents, mucous membrane and even muscular tissue inoculated with diphtheritic material, a proof increase of these two kinds of bacteria with results, while all other forms disappear altogether. In these cases immense numbers of bacteria appear heaped up in the uriniferous tubules and malpighian corpuscles of the kidneys, and occasion there a parenchymatous inflammation,

capillary embolism of the glomeruli of the kidneys, with ruptured vessels and formation of epithelial casts in the tubes. Inoculation with diphtheritic matter from which bacteria had been removed, gave negative result. The principle authorities for the above are: Oestel, Bühl, Hueter, von Frendelenburg, Nusseloff, Oberth, Pfurth & others.

Notwithstanding the strong evidence these facts seem to afford, I am forced to concur in the opinion of Mr Thomas, that, the cause is something more subtle not yet understood or discovered which so alters the tissues and the blood that they become a nidus in which the bacteria

are early and quickly developed, so that from being few and innocuous in the System, they occur in myriads. He strengthens this assertion by the assertion that he always found micro-coccus in abundance, wether diphtheritic or non-diphtheritic pharyngitis, if the inflammatory product had remained sometime upon surface of the fauces.

Respect. Submit.
Thomas. A. Correll.
Baltimore City.
Feby. 1875

Heat and Cold as Therapeutic Agents.

Thesis
Presented to the Faculty
of the University of Maryland,

By
A. A. Summa

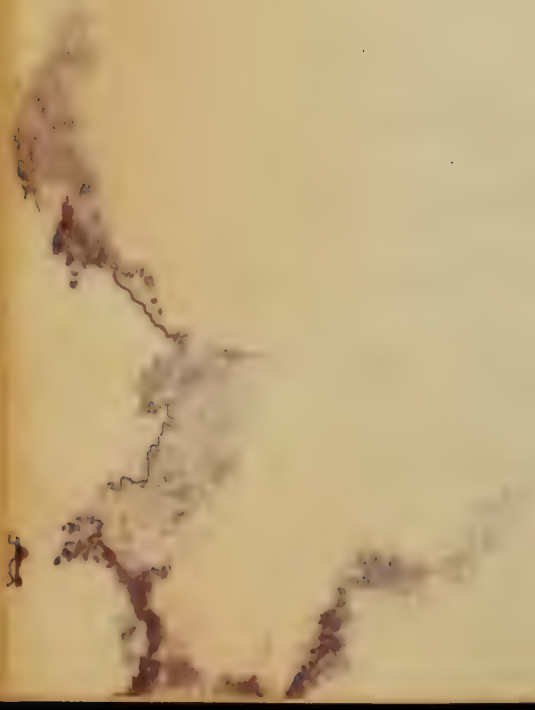
Feby 11 75

These two apparently opposite conditions of matter, are but different degrees of what is now recognized to be a mode of motion -

This motion exists in all matter. When the application of heat and cold is spoken of, it is meant that in the one case the motion is increased, in the other that the same is decreased -

Thus the two may be well treated of together -

In this article 1st, The physical character of this heat motion will be treated of. 2nd, The production of animal heat - 3d, Its increase or diminution in disease - 4th, The physiological



effect of the addition of heat, and of its withdrawal from the living body — 5th. The Therapeutic effect of the addition to, and of the withdrawal of heat from the body —

Physical Character —

The mechanical has entirely superseded the old material theory of heat — According to this theory, heat is not a material substance, but a form of motion among the ultimate particles of matter — All matter depends on the sun for this motion, That is all motion according to Prof. Tyndall has its origin in the sun — It may be obtained from matter by Chemical

action, of which combustion is an example - by electricity and mechanically by friction, percussion, and compression -

The general effect of heat on matter is to increase its volume - To change solids to liquids, and liquids to gas. - The withdrawal of heat, or the application of cold produces just the opposite effect -

Heat tends to diffuse itself by three methods, viz. conduction, convection and radiation until all neighboring bodies have acquired a uniform temperature -

We consider bodies hot or cold as they possess the heat force in greater or

less degree than in solids. If we place one hand in warm water and the other in ice water until the surface of each has acquired the temperature of the water in which it is placed, and then plunge both into Spring water the one will feel cold, the other warm, as one will be losing and the other gaining heat—

The production of Animal heat—

Inanimate matter is dependent ~~on~~ entirely on its surroundings for its amount of heat, unless it undergoes chemical or mechanical change by which its nature or form will be changed—

But such is not the case with living bodies – All organic bodies have the power of maintaining a specific temperature independent in a great measure of surrounding objects – This is owing to the power they possess of generating within themselves a certain amount of heat – And the power also of throwing off heat when in excess – at least this is the case with animals –

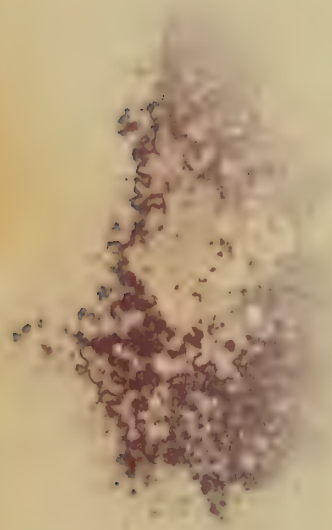
As animals as well as inanimate bodies constantly lose heat by conduction unless the temperature of the atmosphere be above that of the body, it is evident that a considerable amount of heat must

be produced in the body —

It was formerly held that the heat was produced directly and entirely by the oxydation of carbonaceous food —

In respiration oxygen is taken into the system — as food Carbon is taken — Carbonic acid ~~and~~ is passed from the body, but it can not be said that the Carbonic acid has been produced by a process of direct combustion —

It is only known that oxygen and Carbon are taken, and are assimilated in the process of nutrition of the different tissues, and that these tissues are disintegrated one of

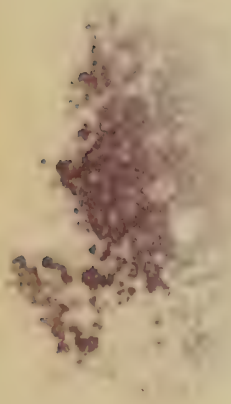


the results [illegible]
and during these [illegible]
[illegible] —

There is also in the [illegible]
[illegible] motion friction
&c. And as all kinds of motion are
correlative or convertible [illegible]
other, these motions may give rise
to heat motion —

When living bodies are subjected
to a low temperature it is necessary
that greater amount of carbonaceous
food be taken, and that the escape of
heat be prevented by the use of non-
-conducting clothing —

That the amount of heat produced is
in proportion to the activity of nutrition



is proved by the fact that those organs in which nutrition is the most active possess the most heat -

When the body is heated above a certain point by the rapidity of change within, or from the receipt of heat from without, a cooling process is necessary - This consists in exhalation of water by the skin the evaporation of which produces cold - A small amount of heat is given off by the breath -

There appears to be a nervous centre which regulates temperature to a certain extent, but not much is known about it -

Fdy. The variations of temperature in disease - Inflammation has been defined as morbidly increased action or motion

than the arterial [illegible]
supplied to the part, and 3d, that the
venous blood returning from an in-
flamed part is found warmer than
the corresponding vessel on the oppo-
site side of the body."

"The cause of this increase of heat
must be sought for chiefly in the altered circulation.
The fraction due to the greater amount
of blood in part no doubt contributes
to some extent to this effect. And it may
also be said that nervous action may be
changed into heat, as both are recognized
to be correlative modes of motion."

The blood in passing through an in-
flamed part becomes heated and
carries to other parts of the body

the different organs giving
use to various functional derangements
for example nausea, increased secre-
-tion from intestinal glands, causing
diarrhea, &c — The nervous system
gives its first cry of distress in the
form of a chill or contraction through
the vaso motor nerves of the transitional
arteries of lungs or skin — followed by a general reac-
-tion or dilatation of the same small arteries
~~[illegible]~~ permitting the capillaries to
become congested — This condition
is called fever — The body is in a febrile
or not condition though even when the child
is ~~was~~ on ~~[illegible]~~ Fever is defined to be an
acute disease characterized by increase
of heat — Causes other than that just

mentioned are malaria which [illegible]
poisoning the nervous system [illegible]
[illegible] to Intermittent, remittent, yellow
fever &c — ~~[illegible]~~ —

Typhotic causes producing Typhus
[illegible] fever &c —

Dr Bence Jones says that physicians
are beginning to think that fever
bears the same relation to inflamation,
that fermentation bears to combustion —

In irritation we have increased
action in less degree than in inflama-
tion, but as there can be no increase of
action without increase of heat there
must be as the result of every irritation
physical or mental a certain
increase of heat — or slight degree of fever

2d. The physiological effect produced by the application of heat and cold - By the application of heat to the surface of the body we obtain the sensation peculiar to it. This may be pleasant or painful owing to the degree applied - The volume of the tissues will be increased, this will distend the capillaries and increase their capacity for blood = The effect on the vaso-motor nerves is to paralyze those whose duty it is to contract the transition arteries -

The impression made on the nerves at the surface is carried to the brain and reflected to the vessels of the internal organs - The long continued application of heat in quantity, ~~[illegible]~~

to great to be counteracted by the cooling process, the organs cease to function, a general febrile condition is set up, which may be to the extent of causing death in a depressed condition known as insolation.

The effect of the increase of blood in the capillaries is to produce general stimulation, and to increase the secretions of the different organs -

The constant exposure to heat not too great to be borne as in warm weather will by constantly stimulating the various organs cause them to become exhausted and relaxed, thus producing diarrhea, derangement of liver &c =

The withdrawal of heat from the body has directly the opposite effect to that

produced by its addition, by contraction of the tissues and consequently the calibre of the capillaries is lessened less blood being then in the part —

Its effect on vaso motor nerves is also opposite to that of heat causing contraction of transition arteries and thus withdrawing blood from capillaries — This effect is reflected to the internal organs causing them to contain less blood and interfering with the activity of their action —

When the living body is subjected to a very temperature all motion may be arrested and thus death take place —

The sudden impression made by the application cold, may by the peculiar sensation produced, stimulate or arouse

a torpid nervous system-
The effect of cool weather is to give tone to the system, but the [illegible] low temperature is decidedly productive to health- This is shown by analyses of the death rate in different cities- The week of last December ending on the 5th was one of extremely low temperature in the City of London- The death rate of that week and for sometime following was remarkably high-
The excess was principally in diseases of the lungs- This is to be attributed to the arrest of the action of the skin as an organ of exhalation, thus giving the lungs more work to do- [illegible] in the deaths from [illegible] disease is also

shown in the same reports - The two extremes of life chiefly furnished the victims -

The effect of the local application of great heat is to coagulate the albumen of the tissues, thus destroying them -

5th Therapeutic application -

It may be stated in a general way that the effect of heat is to stimulate and of cold to sedate -

As in nearly all pathological conditions there exists either depression or over stimulation, it is obvious that the ~~applications~~ indications for these two agents would be in almost all diseases = It will only be attempted

to indicate some of their [illegible] in certain conditions for giving relief — The stimulating effect of heat may be availed of in many conditions of depression, for example in the cold stage of malignant febrile disease when there is an inability to react or when the nervous system is paralyzed by the malarial or other poison —

It has been said that the skin acts as a reservoir for blood not needed in the internal organs, admitting this we may by congesting its capillaries withdraw blood from congested internal organs — This conflicts with the idea that the impression made on nerves of surface is reflected to the whole system

needless to say, noted that the skin acts as an organ, its function being to regulate in a manner the amount of blood in the internal viscera -

In case of retrocession of cutaneous eruptions the eruption may be recalled by heating the surface, when the retrocession depends on internal irritation

As diaphoresis is the method by which the system relieves itself of heat, the heating of body is to be resorted to whenever diaphoresis is indicated, as when it is desirable to relieve the kidneys of a part of their work -

By the reflection of the effect on the vaso motor nerves to the internal organs they may each be stimulated to

increased activity, increasing the various secretions, thus causing torpid organs to function.

It is said to affect the liver by promoting the secretion of bile in another manner namely as the system does not need to produce so much heat, less of the carbon is changed into carbonic acid, the carbon left seeking another outlet finds it in the fatty matter and cholesterin of the bile. the liver being thus stimulated to increased action - Long continued stimulation of this kind will arrest altogether this secretion as in warm countries. The escharotic effect of heat is used in the ~~prevention~~ arrest of hemorrhage -

Counter irritation is produced by its vesicatory and subsequent effect—

Cold though depressing to the part applied, will have a stimulant effect by the peculiar sensation it produces. In syncope the sprinkling of cold water on the face will by the nervous impression made, cause a deep inspiration and thus start the heart to action— In virtue of the power it possesses to contract tissue, lessen molecular action and to diminish the quantity of blood in a part, it directly sedates the part to which applied— When whole surface is cooled, the blood becomes cool while in the

superficial vessels, and flowing to the internal organs, after a time cools these also. Thus its sedative influence is exerted on the whole system -

The action on the vaso motor nerves being opposite to that of heat, the amount of blood owing to the contraction of transition arteries, is lessened and by reflex action the small arteries in the internal organs are contracted. In this way the congested brain may be relieved and sleep promoted -

The congested kidney may be relieved and permitted to function, thus it is diuretic -

The relief to various other organs may in the same manner be given -

The local of cold to a part

[illegible]

action - This is due to the physical effect of the withdrawal of heat, and to its action on the vessels -

This astringent action is used in arresting hemorrhage of various kinds - in the prevention of inflammation in wounds and to give tone to relaxed parts - Cold by its power of arresting fermentation, acts as a preventative of zymotic diseases -

If sufficient [illegible] of heat be withdrawn from a part all motion may be arrested and consequently all sensation lost for a time without permanent injury - This anesthetic influence is ~~taken~~ used in the performance of minor surgical operations -

Inaugural Dissertation

on

Pneumonia

by

William Rawlings

of

Ga

Feb 12th 1875

Acute Lobar Pneumonia

This is the name to designate an inflammation of the aircells or alveoli together with the terminal bronchial branches. The membrane which lines the vesicles is very different from the mucous membrane lining the larger bronchial tubes. The epithelium is changed from cylindrical and ciliated to the tessellated variety. The lobes into which the lung is divided are made up of an aggregation of lobules which consist of aircells and bronchioles connected together by areolar tissue. In acute pneumonia the membrane lining the aircells and bronchioles is inflamed. In bronchitis the inflammation never

involves this tissue nor does pneumonia have a tendency to migrate from the parenchyma to the mucous membrane. This is in accordance with the pathological law. Acute pneumonia when not circumscribed nor a concomitant of some pulmonary disease usually involves one entire lobe, and if developed during another disease of this organ it may be more or less limited

Anatomical Characters. The first noticeable change resulting from the inflammation is hyperaemia or a flux of blood to the part; in this stage the lung is heavier than when normal, and if a section be made it is of a dark appearance, and blood flows from the incised portion,

together with a fatty matter. It is often difficult to differentiate it from hypostatic congestion; it can only be done by the clinical history of the two conditions. As blood like other fluids gravitates naturally to the most dependent portion of the body, consequently it may occur under different conditions, as in long continued fevers and other protracted and debilitating disease which involve a continued dorsal decubitus; and is found on both sides. Pneumonia usually involves only one lobe. Exudation rapidly supervenes and coagulates in the vesicles; the air is driven out and the lung becomes solidified and presents an appearance

not unlike that of the liver,- hence the name hepatization The red color of the lung at this period is due to the amount of red globules in the exuded matter & not the amount of blood in the vessels The lung is increased in weight and sinks if placed in water. The weight is not due to the amount of blood in the lung, but to the solid matter that has been transuded into the alveoli The lung breaks down under the finger very easily, and on section presents a granular appearance. The lobe or portion affected does not collapse when the chest is opened and its size is in proportion to the amount of exudation.

If the disease ends favorably the

matter now in the air cells is removed
mostly by absorption Expectoration
removes a portion of it. though in
some cases the expectoration is wanting
altogether. The air cells sustain no
damage from this disease; they remain
in tact during the disease and are
restored to their full function
when the exudation is removed
. But if this exudation is not remov-
-ed by absorption and the portion
affected is infiltrated with fibrin
and pus. the condition is then
termed purulent infiltration; The
lung is much inflamed and is
readily broken down by slight pres
sure. In this way abscesses occur.

Under such conditions gangrene may be looked for, but in these conditions both are extremely rare.

Bronchitis usually coexists with pneumonia, affecting the tubes of the lobe or lobes in which the primary disease is seated. It sometimes occurs in both lungs, but rarely so. There is no tendency in the development of bronchitis if pneumonia is the primary disease. Bronchitis bears the same relation to pneumonia though the same cause may produce both. Circumscribed pleuritis usually occurs during the course of pneumonia but is not so severe as a rule as when the pleuritis is the primary disease.

Seat of the disease First in frequency

is the lower lobe of the right lung;
next is the lower lobe of the left
lung; the right is attacked about
one third oftener than the left;
the upper lobes are least attacked
but often some seasons than others.
When this is the seat of the disease it
is more dangerous. One lobe is attacked
at a time, it does not pass from one
to another by extension of the inflammation
but when a new lobe is affected the
inflammation is produced primarily as
in the adjoining lobe already inflamed.
The inflammation generally invades
one entire lobe though there are exceptions
as in complication.

If a postmortem examination shows,

but only a part of a lobe is involved it is probable, had the patients life been prolonged, that the disease would have extended. The whole of the lobe is not inflamed at once but commences in one or more portions and gradually involves the entire lobe. Pneumonia seldom stops at the stage of engorgement; exudation is almost sure to follow.

Clinical History This disease is divided into three stages according to the appearance of the anatomical characters The first stage, that of engorgement lasts from the invasion of the disease until consolidation occurs which usually takes place in twenty four or forty eight hours,

This stage is usually ushered in by a well marked chill; the invasion is generally abrupt, commencing at night. thermometer shows increased temperature, respiration is markedly increased and pain under the nipple is very common due to the coexisting pleuritis; cough is more or less prominent accompanied with some expectoration. At first the expectoration is transparent and viscid but assumes the rust color, which is characteristic of the disease. The peculiar color is due to the blood which has become mixed with the secretions of the bronchial tubes and is by no means always present. The pulse ranges.

from 80 to 130, Temperature from 101 to 107, with great heat of skin and hurried respiration.

These symptoms are in proportion to the gravity of the disease and condition of patient when attacked

Second Stage. Most of the symptoms undergo some change; the pain is less, cough continues, but is less harrassing; the expectoration changes from a rust colored sputum which is commonly present to a transparent and is more abundant

Febrile movement ~~is~~ diminished though there is no decided intermission.

The pulse in this stage is deficient in strength and very frequent;

respiration is still increased in consequence of the solidification; delirium often occurs in the second stage of pneumonia; it is of the low muttering type, such as occurs in some of the continued fevers, especially when the upper lobe is the seat of the disease. The pneumonic flush is often observed; it is an irregular defined redness on both cheeks; when confined to one, it does not indicate that the disease is on the same side.

There are certain complications such as malarious fever shown by its periodical tendency to return, but the pneumonia may interrupt the

regular return of the paroxysms. Of the malarial, some cases take on a typhoid form; in this condition certain typhoid symptoms are added to those of pneumonia but it is not a superinvention of typhoid fever on pneumonia.

Duration of this disease is about, twelve days though it may range from five to thirty.

The invasion of another lobe is seldom marked by a chill, but is noted by a sudden increase of temperature, rapid pulse, respiration labored and in short all the symptoms are aggravated, and intensified.

When the stage of resolution com-

menses all the symptoms gradually abate, appetite returns, strength is restored, respiration becomes normal and complete cure is established.

Causation The season of the year is shown by statistics to be a predisposing cause. More cases occurring during the winter and spring months than in the summer. Cold appears to act as the exciting cause in some cases. When the constitution is in a state of low vitality, it is frequently developed. An attack of long continued fever such as typhoid and typhus seems to pave the way for an attack of this disease. Rubeola is one of the most frequent causes.

It seems as if bronchitis does not tend to develop pneumonia and the same is true of phthisis. It frequently is pneumonia associated with asthma and emphysema that it is thought but they give immunity rather than predisposition to it. Nor does it seem that persons debilitated with phthisis are peculiarly disposed to this disease, nor is it commonly developed upon organic diseases of the heart.

This disease is more frequent in males than females: this is probably on account of the exposure of the male sex. No age is exempt from it, though it is more common during middle life from fifteen to thirty five

years of age, rare over sixty and under five years.
Persons most exposed to the vicissitudes are oftenest attacked; men of intemperate habits are peculiarly liable to an attack of pneumonia and it is more severe in such cases. The cause is not always apparent, nor can it be attributed to any known exposure. It is more frequent in the southern states than in the northern and more severe, has a tendency to involve more than one lobe and often proves a plague to the large plantations in the south. Diagnosis
Different from what it was only a few years since we can now by the aid

of physical exploration determine the seat and extent of the inflammation and accurately differentiate it from other diseases; while the symptoms which were formerly relied upon are often latent, and the diagnosis was inaccurately made out.

Pneumonia is generally ushered in by a chill with a high temperature and rapid pulse with pain over the seat of disease. The first stage has slight dulness on percussion accompanied with the crepitant rale, which is almost pathognomonic. the subcrepitant rale should not be confounded with the crepitant its characters being the fineness dryness and heard only on inspiration

while the subcrepitant is heard both on inspiration and expiration, and is moist; the crepitant rale is not uniformly present; when such is not the case the diagnosis may be prolonged until development of other symptoms such as dulness on percussion and vocal fremitus, both of which are markedly increased on consolidation; bronchial respiration is now present, also bronchophony.

The physical signs are at first heard over a limited space, but spreads as the disease advances, and in proportion to its rapidity. The invasion of another lobe is marked by the dulness on percussion, bronchial respiration, increase of temperature, and an aggravation of

all the already existing symptoms;
though the crepitant rale is seldom
heard on this occasion.

The commencement of resolution is
marked by an abatement of all the symptoms,
bronchial respiration gives way to broncho
vesicular, and the latter approaches
more and more to the normal respiration;
dulness on percussion is modified
from day to day. During the decline
the crepitant rale returns.

N.B. If resolution does not take
place, flatness on percussion is con-
tinued and moist rales are present.
It may go on to abscess.

Prognosis. The tendency of this
disease is to recovery; it rarely ever

produces death, with out some com-
plications. Statistics show that recovery
takes place in nearly all the cases of
pneumonia; age has a marked influence,
old persons yield more readily if more
than one lobe is attacked; such is true
of children; but persons from fifteen
to forty years of age recovery is the rule.
even if more than one lobe is involved
a favorable termination may be
expected, & patients often recover if one
entire lung is involved.

The danger is in complications such
as after continued fevers & Rubeola, & in
persons attacked under such conditions,
if more than one lobe is involved,
the prognosis is grave.

Organic heart complications are dangerous. Patients often during the first stage of the disease under such conditions. Forming of heart clot is not infrequent in this disease; this is due to the damming of the blood back on the right side of the heart; this condition with the increased fibrin of the blood, which causes a deficit of fibrin to take place on the valves. which is often the immediate cause of death, as is revealed at post mortem examination.

As regards prognosis after abscesses have formed it is very unfavorable, but cases do recover.

Symptoms which are unfavorable are, delirium, violent or a low muttering

type, subsultus tendinum, great prostration with livility of the pro labia and face, pulse feeble, and respiration suppressed.

In a large number of the deaths from pneumonia it is by asthenia; death by apnoea may occur if two or three of the lobes are involved successively or at the same time; the amount of pleuritic effusion increases the danger to apnoea.

When convalescence takes place it goes on to complete recovery, the inclination to pass into the chronic form is slight, nor is there an inclination to relapse; it is also infrequent for it to develope tuberculosis.

Treatment. As to the propriety of blood letting I think experience has abundantly shown that blood letting is not only uncertain but unappropriate; and in most cases injurious, though some cases seem to be relieved momentarily by it. as the disease takes its full course the blood taken in the portion of the disease is required in the third stage and as death is more common by asthenia it is better to treat symptoms in the first and use supporting treatment in the second and third stages. In the first stage when the crepitant rale is present. pulse frequent, skin hot and dry, a saline purgative. and to control the heart and accomplish what has been attributed to blood letting use Veratrum

Viride; or aconite, if a less depressing agent is required. Opium may be given with propriety in the first stage, given in quantity to relieve pain and tranquillize the system.

Counter irritation is valuable in this stage, such as dry cups over the seat of the disease; The patient should wear as I have seen used in the Baltimore Infirmary an oil silk jacket; this keeps the surface warm and perspiration goes on freely. Treatment in the second stage is to be directed to the absorption of the exuded matter, and sustaining the powers of life. In this stage blood letting is not admissible nor is saline purgatives called for; use such remedies

as will hasten absorption: the use of Iodine externally, and internally is a useful agent. Blisters are not advisable as they interfere with the physical examination of the chest and the general disturbance they produce. Opium is a useful agent in this stage as it relieves pain, causes sleep and in this way places the system in a better condition to endure this stage. The vital powers are to be closely guarded in the second stage, for resolution will take place if life is prolonged; the danger is therefore from the failure in the vital powers before resolution is accomplished

the constitution of the patient; his previous condition and habits will be the best guide when to commence supporting treatment; *ceteris paribus*, patients in warm climates need supporting treatment earlier than cold, as this disease is more fatal in warm climates than cold. This part of the treatment should not be neglected; under this head is included tonics, stimulants and nutritious diet. Of tonics, Iron and Quinine are the best. alcoholic stimulants form a very important part of the treatment; the dose can only be judged by its effects. As regards the indication for stimulants, as soon as the vital powers begin to fail. feebleness and

frequency of pulse is the best criterion, begin with small doses and increase until the desired effect is produced.

Alimentation forms an essential part of the treatment and should not be neglected.

When there is a complication with Malaria Quinine should be administered freely, and at once; in Malarious countries Quinine is the best tonic.

In complications with delirium tremens the same treatment with Opium.

Yellow Fever.

Gabriel Giménez.

To the Faculty.

In submitting the present essay to our learned Faculty for the Medical Degree, I find it necessary to premise how unqualified my short acquaintance with the English language makes me for undertaking to discuss it at home, upon which so many volumes have been written by our most eminent authors. Such being the case, it cannot be expected that in the circumscribed scope of a few pages to give more than a cursory outline of the most prominent and important points; and even in this, I must beg the indulgence of my reader if he can hardly understand me, as I labor under the disadvantage of being a Stranger to the country and language.

Synonims.

This fever has received a great variety of of names, among which we find the following- Typhus Icteroide, Typhus d'Amerique, Nautic Typhus, Bilious fever of America, Gastro hepatic fever, Black vomit, etc.

Definition.

An epidemic continued fever characterized by yellowness of the skin, and accompanied in severe cases by hemorrhages from the stomach usually in the form of black vomit.

History.

The writtings of Mess Dutrolau, Gibbs, Mellado, La Roche and other authors, lead us to believe that the ancients knew nothing of this fearful disease before the immortal Columbus and his followers set foot upon our shores.

It was after Columbus discovered America in 1493 that this fever was first supposed to exist, and not until the 17th century was it distinguished from other pestilential diseases.

Etiology.

The majority of modern authors are of the opinion that two causes are necessary for the production of Yellow fever, viz; a high temperature, and a focus of infection, that is, a centre of putrefaction produced by the decomposition of animal and vegetable substances. For this reason, they say, it prevails mostly near the sea coast, lakes, and large rivers.

Nobody doubts that these two causes develop the Yellow fever and pave also its

propagation as it has been found by numerous facts; thus, it is well known that it has been exhibited suddenly in ships sailing near the latitudes when it generally prevails and in which a germs of infection had been developed accidentally. Nevertheless, these facts must not authorize us to consider as essential these two causes, neither to believe that no epidemy of Yellow fever can exist without their presence, because there are countries such as some provinces of the east Indies where these causes of insalubrity considered to be the origin of this disease are united in the highest degree, and very few cases are seen there. On the other hand, there are countries where no such causes exist, and the disease exhibits

itself in other parts as for instance the Bermudas Islands.

Other authors are of the opinion that the causes of Yellow and Remittent fevers are identical, in other words, that both diseases are their origin to the malaria poison. This theory is not accepted now, as it is proved by their symptoms, morbid anatomy, treatment and many other facts that they are not identical.

We must then accept that the causes of Yellow fever are unknown, and all we can say is, that it is indigenous almost exclusively in warm climates; thus, it prevails endemically in Cuba, St Croix, St Domingo, it is bordering on the gulf of Mexico. In places not tropically situated where

it prevails epidemically it is only during the Summer Season.

Morbid Anatomy.

There are no especial lesions in this disease; however, many observers have found the stomach, intestinal canal, and liver, to be the principal organs affected in the majority of cases.

The mucous membrane of the stomach is red, soft and thick. The cardiac portion is usually more affected than the pyloric. Generally it contains more or less of the matter vomited.

The morbid appearances of the intestines are also redness in patches, ecchymosis, and softening. They also contain more or less of the ~~xxxx~~ black matter characteristic of the disease.

The liver is anæmic, of a pale yellow color somewhat like that of butter or mustard and

presents a kind of jelly state. The kidneys are congested and also the brain.
Chemical analysis shows that the blood contains a greater quantity of urea and this is in relation with the suppression of the renal secretion.

Symptoms.

The course of this disease may be divided into two stages.
It comes on as a general rule abruptly and in the midst of ordinary health. In the beginning and more especially in severe cases the patient feels very weak. The fever may be more or less intense, preceded by chills which are followed by heat and sweat. The chill is not always present; sometimes it is very mild again very intense and

accompanied by more or less nausea. It is apt to be repeated during the period of heat: this symptom must be considered as one of a bad character. The heat may be like the chill, more or less severe, acrid, and dry in severe cases, moist in mild ones. The sweat is rare, however, it has existed in some cases with the same degree of intensity as in Intermittent fever. The doubt with regard to the diagnosis occasioned by this fact must necessarily disappear when we find that heat exists at the same time.

The tongue is usually moist and covered with a white fur in the middle, but red at its edges. The throat is occasionally sore rendering deglutition difficult. The taste is sometimes sour on account of the bilious

mith. The desire for cold drinks is usually extreme, and ice held in the mouth and slowly swallowed is very grateful on account of the high gastric ~~irritability~~ heat. Vomits during the first period are very rare, sometimes they occur and are of a bilious character. The bowels are generally costive and the urine is greatly diminished.

Cephalalgia, the pain especially referred about the orbits, is usually present, sometimes very severe. The pains in the loins and lower extremities exist from the beginning and are usually the source of great discomfort. Delirium and other cerebral symptoms are sometimes exhibited in this stage, but except in severe cases they do not appear till the second stage.

the febrile symptoms continue for a period ranging at from a few hours to three days or longer. Then having run its course the fever subsides, a great apparent amelioration of the disease is experienced and in many cases convalescence follows. But in the majority of cases, this is only an apparent calm, the disease still exists unabated.

This period of apparent abatement may continue for a few hours or sometimes for a day, and then another class of phenomena become developed more distinctive of the disease than those already observed during the febrile paroxism, indicative of the second stage.

What now most attracts our attention is the yellowness of the skin. The redness observed

red in the first stage yields to the yellow color which begins about the third or fourth day and even earlier in some cases. It appears first in the conjunctive and extends successively to the forehead, face, neck, chest, and so on until the whole surface becomes involved. This color is not always dependent upon the presence of bilivirdine in the blood which fact is proved by the diarrhea lacking the coloration proper to it, also when the urine is treated with nitric acid it undergoes no change or modification. However, this yellowness is sometimes indicative of the presence of the coloring matter of the bile in the blood; when such is the case the skin and conjunctive present the tinge peculiar to it, the urine presents also a dark

color and when treated with nitric acid produces a green color. From the foregoing statements we must deduce the fact that there are two kinds of coloration in this disease, one icteric produced by a real bilious suffusion, the other having nothing in common with the icterus but the yellow color. The latter is explained by Dr Ballot as being a transudation of the serum from the vessels occasioned by the intense congestion of the arterial and venous capillaries, which depends upon a change of the vascular innervation produced by the miasm of yellow fever. Dr Gilbert Blanche is of the opinion that it is due to an alteration of the red globules of the blood.

During this stage the temperature is diminished

the pulse falls to 40 or 50 or stands normal and in some cases it becomes quick, irregular and feeble. In this stage black vomit occurs. Its character is so peculiar that taken in connection with the symptoms already discribed is pathognomonic of the disease. The act of vomiting is feared by the patient on account of the burning sensation they experience along the Oesophagus and Pharynx. The vomit is of reddish brown color with sediment resembling coffee grounds. This peculiarity is due to the action of the gastric juice upon the blood. Tenderness over the epygastrium is sometimes very severe. The evacuations from the bowels are occasionally bilious in character, and in some other cases of a brownish color resembling that of the

black vomit. The urine is lessened or entirely suppressed containing albumen and in some instances bilverdine.

Hemorrhages are very common at this stage, taking place from various parts of the body as from the nostrils, gums, fissures in the tongue, the fauces, uterus &c and sometimes blood is also discharged by stools or with the urine, and petechiæ, vibices arising from the extravasation of blood appear upon the skin.

Symptoms in reference to the nervous system are also observed now. In mild cases they are very slight, but in severe cases they are very prominent and of serious character. In the great majority of cases, but more especially in severe ones, the course of yellow

fever may assume two forms, sthenic and asthenic.

The former is characterized by delirium, great restlessness, insomnium, twitching of the tendons, hiccough, convulsions and hyperasthesia of the skin. The latter is characterized by prostration, stupor, coma, coldness of the extremities abundant hemorrhages, offensive odor exaled from the body of the patient, and a small pulse.

The duration of this disease is very variable. In the shortest cases death or convalescence takes place in from two to three or four days. The average duration is from six to nine or ten days.

Diagnosis.

The initial stages of most fevers has so

many simptoms in common that it is often difficult to discriminate betwen them. Yellow fever is not exempt from this truth and consequently we cannot always arive at a positive diagnosis in its first stage. Nevertheless there are some symptoms which may lead us to a probable inference as to the nature of the disease.

The symptoms which have diagnostic significance are: the abruptness of the attack, the severe pain in the loins and lower extremities, the turbid conjunctive, and the dark redish suffusion of the upper portion of the face.

After the first stage it may also be confounded with other diseases. The diagnosis can be easily made on account

of the prominent symptoms characteristic of the second stage.

There is one disease however which has been, and even at the present time is considered by some writers as analogous to this affection. This disease is Remittent fever. Indeed they have many symptoms in common to each other, and in some localities they often run together making the diagnosis very difficult.

With no authority to enter into a discussion about this point, I shall limit myself to point out the principal symptoms and peculiarities which I believe may lead us to a correct diagnosis in doubtful cases.

Yellow fever attacks abruptly, in the

midst of ordinary health. The chills are very seldom repeated. There is but one paroxysm which lasts but a three days and is followed by a total cessation of the pernil symptoms. The surface of the body and conjunctive are red at first, and yellow afterwards. The vomits are accompanied with pain in the stomach and burning sensation along the œsophagus and pharynx; at first they are bilious in character and are succeded by bloody with sediments like coffee grounds. The urine is at first diminished and the renal secretion is wanted afterwards. It contains albumen in the second stage, the urea and uric acid are diminished, and sometimes it also contains bilirubine.

Hemorhagies are constant, the most frequent being the gastrorhagia. There is no increase in the volume neither of the spleen nor of the liver, and no pain in the last organ. It very seldom or never occurs at any considerable distance from the sea coast or the borders of navigable streams. The attack of it exempts from a subsequent one. It occurs epidemically very often. Cinchona bark nor any of its preparations has no controll upon it at all.

Remittent fever is very often preceeded by accesses of Intermittent fever. The chills are repeated periodically. It characterized by remmissions. Yellowness of the skin when present is from the beginning and

the same may be said with regard to the conjunctive. The act of vomiting is easy and the patient feels very much more comfortable afterwards. The vomits ~~xxx~~ are almost always bilious in character and very seldom present the bloody appearence of those exhibited in yellow fever. Suppression of the urine is a very uncommon occurence. It shows no albumen. The urea is diminished, but the uric acid is considerably increased, and generally contains biliverdine. Hemorrhages are very seldom present and if they happen at all the most frequent is hematuria. The spleen and liver are enlarged and the last organ is very painful. It is quite as prevalent

and violent in the vicinity of miasmatic regions as near the coast. It may attack several times. Never prevails epidemically. Sulph of quinia is specific for this disease and with a few exceptions it exerts a powerful control upon it.

Prognosis.

The disease under consideration is a very fatal one, the mortality varying considerably in different epidemics and at different periods and places of its occurrence.

A favorable prognosis can not be confidently entertained in any case of this malady.

The symptoms which may be considered

as favorable are: a prolongation of the primary fever beyond the accustomed period, diaphoresis at any period from the 4th to the seventh day, and diminution of the epigastric tenderness.

In the hospitals of Havana where there are permanently a considerable number of yellow fever patients, it has been observed in a vast proportion of cases, that the presence of bilirubine in the urine is a good symptom.

These symptoms must go along with the general condition of the patient, to form a favorable prognostic.

On the other hand, black vomit, dark stools, abundant hemorrhages,

suppression of the urine, great frequency and feebleness of the pulse, a blue respiration, a hiccough, coldness of the extremities, excessive restlessness, coma, and convulsions, may be considered as very unfavorable symptoms.

Treatment.

It would be impossible, in a work of this kind, to enumerate all the measures that could be used in a disease presenting so many variety of symptoms and forms. There being no specific for it, I consider the expectant treatment as the more rational one. Therefore, I shall only point out the principal measures that can be applied for those promi

ment and most common symptoms in the great majority of cases.

In mild cases no active interference is required. Quietude, restricted diet, ventilation and all kind of hygienic regulations together with palliative measures as anodynes, refrigerants, laxatives &c will suffice its treatment.

There are a great many opinions with regard to the propriety of bloodletting in this disease. Some advocate bleeding freely, others suggest the extraction of a moderate quantity, and others again advise no extraction of blood whatever. The free bleeding recommended by some is too hazardous to be justifiable in any case. When the patient is of a strong

constitution, the disease is accompanied by a great inflammatory reaction and the pulse is tense and strong, in such a case if early taken, a moderate quantity will diminish the danger of disorganization from the violence of inflammatory excitement and therefore should not be objected to. It must never be used after the lapse of ten days or during the second stage. General bloodletting is preferable to local, because the latter may give origin to gangrene or hemorrhages difficult to arrest. When the pulse is very frequent or readily compressible and the patient anaemic the lancet should never be used at all.

Emetics have been much used. They

must however be used with great precaution on account of the prominent gastric phenomena. If they are administered it must be in the earliest stage while there is yet no great gastric irritability and no tenderness over the epigastrium. The emetic preferred should be Ipecacuanha.

Some authors approve of the use of calomel as a cholagogue cathartic during the early period of the attack, on the score that the patient may recover if salivation can be effected. This practice has now but few followers. In some cases however it may be used with good result, but it will be necessary to decide at an early period of its proper use.

A pill containing one grain of calomel and camphor each might be given:

In the majority of cases where purgation is indicated a mild laxative should be preferred.

Antacids may be used to relieve the burning heat in the stomach, and also in swallowed in small pieces.

Unless contraindicated by especial symptoms, sponging the body with cold water would be useful to diminish heat and composing restlessness.

Anodynes, refrigerant diaphoretics, diuretics &c may also be brought into play if symptoms requiring their indications should be present.

During the second stage the measures must

be directed to the relief of those disorders which are the source of more discomfort and more endanger the life of the patient.

Vomiting requires the use of astringents. Acetate of lead has been recommended for the controlling of the black vomit, and it may be used although with little hopes of arresting it or at least of doing much good. Some authors advise its use from the beginning of the second stage in the dose of one or two gr. every hour or two to counter act the inflammation of the stomach. Another indication of it is the arrest of the gastric hemorrhage when it occurs. The persulphate and permitrate of iron may also fulfill the same indications.

The patient must be kept up by sustaining measures, more especially when the asthenic

form predominates. Alcoholic Stimulants, iced champaign for example, may be used carefully given and always watching their effect.

The irritability of the Stomach may interfere with the sustaining measures, but if not retained by the Stomach they may be given per enema.

In some cases where there is reason to suspect the association of the malaria poison, quinine may be added to the plan of treatment.

Prophylaxis.

The contagiousness pro and con of this fever has been a subject of much discussion in fact not settled yet. The majority of authors however hold it as non contagious, and assert that it is transported by ships; the especial cause or miasm being supposed

to exist in the cargo and other articles brought in the same vessel.

In places where it exists epidemically having been brought in the way above indicated or where a focus of infection has been developed, private and public hygienic regulations may prevent the spread of the disease to a great extent. Sanitary regulations may also render the disease preventable. Vessels coming from places where yellow fever existed at the time of their sailing either endemically or epidemically must be disinfected as well as the merchandise.

In places where it prevails endemically, strangers being obliged to settle there, must subject themselves to acclimatation rules; for this purpose they must select a place as far as possible from the coast, cool, free ventilated, the diet must be

moderate, and abstinence of acoholic liquors.
In the Island of Cuba where so many thousands
of Spaniards and other foreigners have perished
from this disease, these are the regulations to which
they are subjected as soon as they arrive there,
having been observed that of those who remain
at Havana or other cities on the coast, and those
who indulge themselves in free diet and alcohol,
the mortality is much greater.

Baltimore Md

February 1875.

An

Inaugural Essay

On

Acute Pleuritis

Submitted to the Examination of

The

Provost, Regents, and Faculty of Physic.

Of

The University of Maryland.

For

The Degree of Doctor of Medicine.

By

Samuel G. de Hitch

Of

Salisbury Wicomico County Md.

Feb. 1875.

Pleuritis

Syn. Pleurisy.

Definition. — Inflammation of the pleura.

As this is one of the most frequent of the inflammatory affections, and there are good reasons to believe that it is often associated with other diseases the diagnosis is only made by post mortem examination. Pleuritis may be either single or double, yet the latter is very rare. It may also be acute or chronic. It is the acute form to which I call your attention. I shall first take up the anatomical characters: afterwards the clinical history, diagnosis, prognosis,

and Treatment.

Anatomical characters.— The pleura anatomically considered is similar to other serous membranes, it is divided into two layers, one portion covering the ribs, and the other the lung substance itself, with the free surfaces intervening, which are covered with pavement epithelium and are smooth polished and moist. It recieves a supply of blood corpuscels, but not enough to destroy its transparency. On each side it is a closed sack, known as the right and left pleura. Its office is to surround the lungs, and their cavities in the thorax, so as to allow movement without friction.

Doubtless if the pleura could be seen in the first stage of the inflammation we should see increased redness caused by the congestion of the vessels beneath; this redness may disappear however after a few days or hours. It is thought that in the first stage of the inflammation, the membrane is dry, caused by the suppression of the normal secretion by which the membranes are lubricated. Soon coagulable lymph is thrown out, which now shows certainly the existance of an inflammation which if doubtful before is now made positive by its presence. If the disease terminate speedily in death, on examination of the pleural cavity there will

be found an amount of liquid varying in quantity in different cases. It is more turbid than the serum of the blood, or a dropsical effusion particularly at the lower part of the cavity; caused by the gravitation of coagulable fibrin or lymph, which being heavier than the more watery portions falls to the bottom. On account of the effusion of serum, the pleural surfaces though still covered with lymph do not adhere closely. The amount of lymph varies according to the extent and intensity of the inflammation.

If death occur at a more advanced period of the disease the effusion will be of a different character being thinner and

greater in quantity amounting in some instances to several ounces or pints.

Lymph is found in this stage as in the last but not coating the entire surface, it being generally confined to patches,

This lymph sometimes forms adhesive bands or bridles which connect the surfaces of the pleura which are normally free. These bands carry with them the capillaries which anastimose with the vessels of the pleura and nourished by them become living tissue. The liquid effusion may be so great as to compress the lung into a solid mass, and also if on the left side (where it generally occurs) to press the heart under the center or even to the right of the ster-

-mum; or it may press down the diaphragm, thus displacing the abdominal viscera,

The above discription of the anatomical characters of acute pleuritis relate to it as a primary disease in which case the inflammation extends over the whole or greater part of the pleura.

Clinical history.—Acute pleuritis may be divided into three stages;—first, from the period of attack to the time when there may be an appreciable amount of liquid effused into the pleural cavity; Second to the time when the effusion has been somewhat absorbed; and third the period required for the completion of absorption.

The first stage is generally of short

duration, but in some cases lasts for several days: as in my own case the presence of liquid could not be discover-ed untill the tenth day. But this stage rarely extents beyond Twenty-four or Thirty Six hours. The second stage is of indefinite duration, and the fluid may accumulate more or less rapidly, The quantity may remain for some time when the maximum is reached, or absorption may go on rapidly. The effusion may be partially absorbed and again renewed under ill treatment.

The duration of the third stage is variable, sometimes it may be counted by weeks and again by months. The patient may be

convalescent or apparently recovered and some of the liquid still remain unabsorbed. The duration of the disease is generally from two to four weeks. If the effusion remain much longer the disease is considered chronic. The attack is frequently sudden and often without premonition.

The disease usually commences with a febrile movement, or well marked chill, and pain in the side; subsequently, the characteristic symptoms are pain in the side, which may come on before, with, or after the chill. Its character is severe and sharp, and is often designated as a stitch in the side. It is usually confined to the middle and lower third of the thor-

-ted side of the chest, but it may extend from the crest of the ilium to the clavicle, and from the centre of the sternum, to the vertebral column inclusive, as it did in my own case during this session.

It is felt especially on inspiration and is increased by coughing, sneezing, and sometimes by lying on the affected side; but to the latter there are some exceptions as my own case showed for I could not lie in any other position, and pressure generally gave relief. The respirations are usually increased in frequency, caused by the inspirations being incomplete in consequence of the pain produced by deep breathing, hence the respirations are not

only quick, but rapid. The dyspnoea often increases with the pain in consequence of the effusion compressing the lung, which is sometimes so great as to partially or entirely suspend its action, in which case the other lung has more duty to perform, therefore the patient often feels the want of breath. There is usually a cough but it is sometimes wanting (as I have proved by personal experience); but when it occurs it is generally suppressed on account of the pain which it gives. The expectoration is usually slight, consisting only of a simple mucous; but it is often wanting altogether. The patient generally lies on the unaffected side in

the first stage of the disease, and then changing to the diseased side or back when the effusion takes place, in order that the effusion may not press on the sound lung so as to embarrass its action.

The fever, which is in most cases considerable is attended with all the phenomena of this form of disease; such as an increase of temperature as shown by the thermometer which may rise even so high as 102° or 103°. The tongue is generally furred with increased thirst. partial or complete anorexia, pain in the head and loins, frequent pulse, scanty urine &c. There is generally a daily remission and exacerbation in the fever

of from one to three degrees. It is lowest in the morning and highest in the evening. This may continue untill nearly all the effusion is absorbed. The physical signs are of the greatest importance in forming a correct diagnosis, indeed! it cannot be made without knowing them.

There is usually restriction of motion in the affected side. On auscultation before effusion takes place the sound is quite clear and there may be no other sound than some diminution in the respiratory murmur; or it may be a little jerky. But very soon after the attack when the effusion is poured into the pleural cavity we can hear a peculiar characteristic sound in the

lower part of the chest, which is called the friction sound; it is caused by the rubbing together of the roughened surfaces of the two pleura, which has been compared to the rubbing together of parchment or new leather. This can often be felt by the patient occasionly it cannot be discovered by auscultation, This is the case when the inflammation is diaphragmatic, to which part it is sometimes confined. The most decisive sign is the liquid effusion which causes a diminution of the healthy resonance, and if large may suppress it altogether. It is at first observed at the most dependent part of the chest, but will rise higher and higher as it is poured forth until it some-

times fills the entire cavity. The respiratory murmur is generally enfeebled by the want of action in the lung caused by pain.

Bronchial respiration dependent upon the compression of the air cells is often superadded to the healthy murmur; this sound generally increases as we approach the root of the lung where it is greatest. On the opposite side of the chest the respiratory sounds are louder than in health, and may become puerile. During the stage of plastic effusion vocal fremitus may be slightly increased but it will be partially or entirely removed when the effusion becomes liquid. This may be discovered by placing the hands one on either side of the chest and then have the

patient talk; in which case the fremitus will only be felt with one hand.

Causation — Acute pleuritis may be either traumatic or idiopathic, the first may be caused either by a fractured rib or contusion, or a penetrating wound. However wounds do not always produce it for there have been cases in which musket balls have passed through the chest without setting up any pleuritic symptoms whatever. Perhaps the most frequent cause of an attack is exposure to cold when the body is heated which checks the action of skin too suddenly, but this is not always the case for it may proceed from some internal cause unknown. It is often caused

by Tubercles either by continuity or con-
-tiguity. It is sometimes associated with
Bright's disease. also with acute rheu-
-matism. It is sometimes a sequel
of the continued fevers, It is much
more frequent in males than in females
and in the robust of middle life than
in childhood or in old age, It generally
prevails in winter and spring. It
is much less frequent than pneumonia
and with acute bronchitis bears no
comparison in frequency.

Diagnosis.- The only diseases with
which pleuritis is liable to be confound-
-ed are pneumonitis, pericarditis, pleu-
-rodinia and intercostal neuralgia.

The symptoms singly or collectively are not sufficient in all cases to make a correct diagnosis for which reason it is often confounded with the above named diseases, It may be known from pneumonitis by the following signs; in pleuritis the pain is sharp and lancinating and generally confined to a concentrated area. while in a case of uncomplicated pneumonitis it is moderate and dull. In pneumonitis the expectorated matter is colored and has been compared to iron rust, In pleuritis on the other hand it is simply mucous, either transparent or whitish and in some cases is wanting altogether. In pneumonitis

we have the crepitant rale, in pleuritis the friction sound. In pheumonitis auscultation reveals a bronchial sound low down in the pleural cavity and the position of the patient will not change it; but in pleurisy if much effusion have taken place the sound cannot be heard so low if at all, and by changing the position of the patient you can move the sound or make it absent in different locations. In pneumonia there may be complete dulness on percussion, still the vocal resonance will be as loud as even louder than in health. while in pleuritis it may be altogether wanting, By placing the hands on the chest in pneumonia

the vocal fremitis may be felt over the affected side, while in pleuritis it is altogether wanting as high as the effusion extends. From pericarditis it may be known by the following signs;— first, in pleuritis the friction sound will cease while the patient holds his breath, while in pericarditis it does not. In the effusion of pericarditis we would have increased dulness on percussion anteriorly, while in pleuritis it would be at the side and back.

From pleurodinia by the auscultory and percussion sounds which in it are normal, and the fever is generally slight or wanting.

From intercostal neuralgia by the pain in it being isolated to three intercostal spaces and the

general absence of fever. Prognosis.— In uncom-
-plicated cases the prognosis is favourable, provided
the constitution of the patient be not enfeebled
by previous disease. Doubtless the majority of
cases would recover without any therapeu-
-tical treatment whatever. It may prove
fatal in cases where there is a large
amount of liquid effusion occuring
very rapidly, or where it is associated with
phthisis, or with any organic disease of
the heart or kidneys or when it is bilateral.

Treatment.— As acute pleuritis runs
through different stages, the treatment and
therapeutics in the several stages should be
separately considered. In the first stage or
the stage of inflammation we should use anti-

-phlogistic measures such as cold drinks, or what is better lumps of ice may be swallowed and allowed to dissolve in the stomach, If the fever is high with cerebral symptoms ice bags may be applied to the head, and sinapisms over the seat of pain and to the extremities, in order that the circulation may be somewhat averted from the pleura. We can also give liquor ammonia acetatis or some of the effervescing draughts. Aconite is very useful it is best given in small doses often repeated say one fourth to one drop every ten or twenty minutes. The bowels should be well opened with some one of the saline laxatives, after which they should be kept open with some mild aperient. I would not advise drastic purgation

because we should not tear down but should build up the system. Opium has become a favorite remedy in the treatment of acute stages of inflammation therefore it ranks high in this.

It is given both for its palliative and curative effect. By relieving pain in the inflamed pleura it allows the lung to act more freely so that the blood will become oxygenated more thoroughly and allowed to flow more readily not only through the affected side but through the entire system. It may be administered either in the form of morphia, or Dovers powder which for its diaphoretic properties perhaps is the better. The first may be administered hypodermically over the seat of pain, the latter I think better taken in doses of from five to

Ten grains repeated every three or four hours according to circumstances. Some have recommended cold water applications over the affected part, I think that if used it should be with circumspection. Hot mustard pediluvia are useful in all stages of the disease. If the patient be plethoric with high fever, noncompressible pulse with severe pain accompanied by oppression, the lips purple and a general cyanotic hue, I think it advisable to draw a few ounces of blood; not that it will check the inflammation, but to relieve the heart of its overburden caused by the blood being dammed back in the right auricle.

If the pain be very severe we may let the patient inhale a little chloroform to ease it

until the opium shall have time to act.

The treatment in the second stage or when a quantity of liquid has been effused and there is still much fever requires measures to lessen it, and we will still use opium to control pain. The above treatment will not be appropriate if the amount of effusion be considerable, then the object of treatment should be to promote absorption of the liquid. It may consist of diuretics, diaphoretics blisters and sorbefacients; or we may use purgatives but if we do it should be guardedly. As to the diuretics we may employ iodide of potassium, squill, or digitallis, Diaphoresis should be promoted by the patients being kept in a warm well ventilated apartment with his person well

protected by sufficient clothing. Dr Sutton of London recommends perfect rest in bed.

Blisters are of great advantage in this stage, some use small ones often applied, others larger ones which produce more decided effects at once; a plan which I think better. Of the Sorbefacients there are many. Perhaps mercury has held a higher place than any other but is now not so much valued and I think not without a cause. Iodide of potassium is used with good effect.

The lamented Anstie used and with good results Tincture of the chloride of iron. The mode of action is not fully understood in this case, (Prof. Chew). If the disease has a tendency to prove fatal by the amount of

effusion being so great as to entirely compress the lung so that the patient would sink of asphyxia I would advise the use of the aspirator to withdraw the fluid. The treatment in the second stage as for the promotion of absorption will still be indicated in the third stage.

The patient should be allowed plenty of nutritious food. As to kind I would say anything that can be readily digested. She may also be allowed out door exercise in fair weather, But as she will be more or less susceptible to the cold I would advise the wearing of a protective plaster over the breast for some months.

To sum up the treatment in a few words, we should allay the inflammation, ease pain, promote absorption, assist digestion,

feed the patient and support the constitu-
-tion generally by all hygienic measures.

Scarlatina

Glenn Aaron Fenton
Baltimore City.

class
1875.

Scarlatina

Scarlatina is an exanthematous fever attended with more or less pharyngitis & although it may occur at any age, it is emphatically a disease of childhood.

As the very young are its victims, & as it is both contagious & infectious, & as the nature of its poison is not known, it is justly regarded as a most dangerous disease. It presents different degrees of distinctness & intensity in different cases, & in different

epidemics, & so often has complications that it is necessary to regard it under the three varieties: Mild, Severe & Malignant.

1- Mild. Although there may or may not be any prodromes yet one should suspect Scarlatina whenever with or without a chill there follow fever, usually intense, cephalalgia, anorexia, thirst, diarrhoea, Epistaxis, perhaps delirium & vomiting. The vomiting occurs within twenty-four hours & generally precedes the rash.

The degree of irritability of the stomach affords a means of judging of the virulency of the disease.

The mucous membrane of the mouth, Tonsils, Pharynx & nose are slightly inflamed, previous to the development of the rash, & the tongue, which is coated, secretes a muco-purulent fluid. After the tongue's coating has exfoliated it presents the strawberry-like appearance which is characteristic of it in Scarlatina.

Within twenty-four hours

after the evolution of the
fever & other symptoms, the
rash appears, & although
it may first exhibit itself
about the neck & shoulders,
it is very often first found
upon the trunk & limbs.
Little red dots are first
perceived, which previous
to fading away into the
normal hue of the part,
coalesce & form patches
with irregular margins.
This eruption diffuses itself
within a day over the whole
body & is more vivid
in & about the flexures of joints.

The body presents a boiled lobster appearance & when pressed upon in any one part the rash momentarily disappears. If after pressure the rash returns but slowly, languid circulation is indicated & a dangerous form of Scarlatina should be suspected. The rash, which is gnilly scarlet, may be dusky-red & it not, like measles, uniformly diffused, or it may be entirely absent, as is often the case when the throat affection is very intense or there is a

very serious complication.
The surface of the body is
smooth save when slightly
roughened by the enlarged
papillae of the cuticle.
2d stage - Eruption - It is notice-
able that the fever is greatly
increased on the evolution
of the rash & that the erup-
tion may be heralded
by a convulsion which
does not necessarily imply
a serious complication.
The temperature & the fre-
quency of the pulse
are two striking phenomena
connected with this disease

& with this, the eruptive stage: the former is 105° or more, while the latter is quick & thrilling, but always compressible.

This stage, with its attending symptoms, anorexia, high fever, perhaps delirium, &c. continues about five days, after which a retrocession may be looked for, & about the second week the appetite returns, the face brightens & the patient again becomes capable of being amused & interested in his surroundings.

3rd Stage - Desquamation -
Exfoliation of the Epidermis
now occurs & is in propor-
tion to the intensity & extent
of the rash. It occupies
several days & is attended
with much pruritus.
The patient improves in
proportion to the rapidity
of the decrease of the fever.
The desquamation takes
place in the form of branny
scales or in what is called
the "glove-like exfoliation".
In this stage attention should
always be paid to the urine
as albuminuria is more

at this time than in the eruptive stage.

As there is a liability to renal disease so there may or may not be a return of the eruption after the desquamative period has commenced.

The duration of the third stage is uncertain, but it is usually completed within twelve days, though in rare cases it may continue for several weeks.

2d Form Severe. The illustrative severe Scarlatina is that in which the throat

is chiefly affected.
Deglutition is difficult &
the whole of the mouth & tonsils
are so inflamed as to cause
severe & continuous pain.
Occasionally there is a sort
of diphtheritic exudation
upon the tonsils & pharynx &
the breath becomes fetid.
The inflammation may pene-
trate the larynx & the bronchi
& through the Eustachian
tubes into the internal ear.
Such effects as suffocation, per-
manent deafness & facial
paralysis are results of
an extension of the inflammation

into regions just indicated. The cervical glands may become so affected as to run on to suppuration, but, happily, such a disastrous result is infrequent. When the throat is thus severely affected there may not be an eruption on the surface.

As albuminuria & uraemic poisoning may & frequently do complicate this form of the disease constant attention should be paid to the kidneys.

3rd Form - Malignant - The symptoms accompanying the Malignant form of Scarlatina are so appalling as to excite the gravest apprehension. The vital forces seem overwhelmed & the nervous system presents such fearful phenomena as wild delirium, convulsions (clonic) & coma.

Those who have the strength to live through the exhaustion produced by the delirium & convulsions which occur during the first few days are liable to be harassed

to death by the profuse secretion generated by a severe pharyngitis, which is frequently accompanied by a cellulitis around the angles of the jaws.
If convulsions occur during the eruptive stage of this or any of the other forms of Scarlatina they herald a speedy death.

Complications & Sequelæ

If the fore-going brief account were insufficient to impress one with the dangerous & treacherous character of Scarlatina, it is only nec-

say to enumerate a few of the complications & Sequelae which as handmaids assist Scarlatina in its depressing & life-destroying effects. Intro-Colitis, Rheumatism (articular), Peritonitis, Pleuritis, Pericarditis, Diphtheritis, Nephritis may be complications & Sequelae.

In considering Nephritis with Anasarca as the two chief Sequelae of Scarlatina it should be remembered that, though they are the direct effects of the action of the Scarlatinous Poison

upon the kidneys, the Scarlatinous disease is a thing of the past.

The Nephritis with general dropsy does not exhibit its distinctive phenomena & symptoms till some ten to twenty days after the desquamative period.

The degree & intensity of the renal affection can be ascertained by the usual tests & by observation, & should this affection exhibit itself suddenly & without the usual well-marked prodromes, remember that

abruptness is characteristic of Scarlatina at initio.
The anasarca though grilly lasting not more than two or three weeks has no definite duration, & since there may be an ordema of such parts or organs as the glottis, lungs & brain, the gravity is in proportion to the degree in which a vital part or organ is involved. Should the nephritis be so prolonged & developed as to cause a retention of urea the phenomena occasioned by its presence

in the blood would be ex-
hibited & death would
be speedily ushered in.

Causation

It is needless to re-iterate
any of the many well known
proofs that Scarlatina is
contagious & infectious &
will merely say that its
poison may linger in &
about fomites & abodes
an indefinite time, unless
the most persistent & sa-
gacious sanitary measures
are instituted, & vigorously
& effectively carried out.

The period of incubation is various, but the symptoms may be looked for within twenty-four hours though they are not delayed under any circumstances longer than five or six days.
The greatest number of cases occurs between third & tenth year of life & under the third & beyond the tenth year the liability to this disease is much diminished.
The disease may either be Sporadic or Epidemic: the latter is the more common.
The Epidemics, of which there

there have been many, have been of different types.
In an epidemic of either of the types you frequently meet with cases of an opposite character.
It is seldom that the same individual is attacked more than once, but instances of two or more attacks have been reported.
With the exception of Parturient Women, who seem to be especially liable to contract Scarlatina, it may

be stated that adults possess an immunity from it, even if they may never have contracted the disease in childhood.

Diagnosis.

It is not always an easy matter to diagnose Scarlatina, since the symptoms, although usually very abrupt in their development & distinctive in character, may either be so very mild & equivocal in kind, or may be so few & so simulate other affections, more or less grave, as to completely mislead the practi-

It is not always an easy matter to diagnose Scarlatina, since the symptoms, although generally abrupt in their development & distinctive in character, may either be so very mild & equivocal in kind, or may be so few, & as to occasion the greatest uncertainty in the practitioner's mind & thereby mislead him. The safest way is to ascertain the exact clinical history, & wait for the evolution of the eruption: however, if there be great heat of skin & very quick & frequent pulse,

developed suddenly, together with vomiting & Scarlatina prevail, it would be imperative upon the physician to treat the patient for Scarlatina. Chief among the many points which serve to discriminate Scarlatina from Measles & Variola is the intense heat of skin, which diminishes in those diseases in certain stages, particularly in the eruptive one, while in Scarlatina, it is, if anything, attended with an increase in that stage.

The visible & sensible properties

pertaining to the character of the three different ruptions affords a most obvious & convincing proof of their different origin.

Passing by other differential marks: such as relate to the prodromes & symptoms attending the periods of invasion of the three different diseases, we remark that the greatest difficulty will be in recognizing Scarlatina when the ruption, owing to some complication, may not be exhibited.

Prognosis- In estimating the issue of any case of Scarlatina the strength of the patient, his hygienic surroundings, the type of the disease & its liability to change its character, the presence or absence of complications must all enter as factors in the formation of the prediction. ~~of the issue.~~ If in the early stage the nervous system seem to be overwhelmed there is reason to expect an unwelcome result: on the contrary, if the symptoms be very much less vicious & very regular, recovery may be predicted.

Treatment. The expectant treatment is peculiarly appropriate in this disease. The mild cases require good hygiene & the simplest medicinal measures, while those of the other types demand that the physician shall not only be bold & fearless in doing what his sound judgment, guided by experience & learning, dictates, but that he shall also hold himself aloof from active measures when they are contra-indicated by their doubtful utility. It is of the first importance

that the physician should recognize the vicarious relation existing between the skin, kidneys & bowels.
When it is necessary to sooth the intense heat which the patient suffers from he should be subjected to a warm bath, repeated, if necessary, three or four times a day, or his body should be frequently sponged.
Whenever the patients delirium can not be relieved by the aforementioned measures, combined with anodynes, the cold affusions of Currie should be used.

At times the tonic & stimulant treatment is necessary, particularly, when the nervous system is much involved: in fact, it would not be amiss to use Carbonate Ammoniac & some preparations of Iron at the beginning of any of the forms of Scarlatina. It is often necessary to use injections of various kinds to allay the pruritus which so worries the patient. When there is a severe throat affection ice bags should be applied, or a thin slice of salt pork, whitened

to a single thickness of linen should come into such contact with the throat as to act as a slight counter-irritant.
Emollient applications are indicated when the external swelling is red & painful & the counter-irritation has not removed it.
Gargles containing Chlorate Potassae together with Carbolic Acid, say iij-vj gtts. of the Acid to ℥j Chlor. Potass., & glycerine exercise a very happy influence over the pharyngitis.
In all cases, particularly those in which the throat is

must affected, the diet must not only be nutritious but should also be liquid. Since the patient is especially liable to be affected by the least impudence it is an imperative duty that he should be confined to his room for some few weeks after convalescence has begun, & that the temperature of the room should be uniform & judiciously ventilated.

Active diuretics should not be given when the Nephritis is acute, but, as heretofore

suggested, diaphoretics & purgatives may be substituted.
A steam apparatus may be used when preferred.
The Acetates of Ammonia & Potash the Bi Tartrate & Citrate Potash are the best diaphoretics in acute Nephritis.
The tonic treatment is often necessary after the renal affection has existed for some two or three weeks & in fact, when any sequela of a threatening nature exists, as otorrhoea.
Prophylaxis. Although many have sought to dis-

cover a medicine which would neutralize the scarlatinous poison, yet there is no one which has been accepted by the profession in general. Some claim that Belladonna administered in minute doses acts as a prophylactic, but there are just as many, if not more, that oppose & reject the idea & it must be admitted that statistics are far from proving that Belladonna does the good claimed for it. It seems that Carbolic Acid, which is now rising to such a high rank in the Materia

Indica, has claims which far surpass those of Belladonna, & if the use of this agent be combined with proper hygiene there is much reason to believe that the scarlatinous poison will be so overpowered as to render it much less harmful than it would otherwise be.

Wm Aaron Fenton
Class 1875, Univ. Ind.

A Thesis

On

Menstruation.

by

Harvey F. Burgin,

of Marion-

A. C.

-1875-

"Menstruation"

Of all the functions of the female organism, perhaps none is of more physiological importance as that of menstruation, important as it is to the female after the age of puberty has been reached. Yet it is not essentially necessary to life, for this can be maintained without it; but it is essential to health. This cannot be said of the lungs nor of the heart. So the broad difference between these viscera & the organs peculiar to the female is this: that the functions of the former are material to life & therefore commence at the birth of the individual, while those of the latter not being essential to life, are not brought into exercise until the age of puberty has been reached, generally between the

twelveth to fifteenth year,

There is another interesting fact connected with this subject, The heart, lungs &c not only commence their office at birth, but they are allowed no cessation night or day, Through the whole period of existence they must be in constant and unbroken action, for the tenure of human life is the fidelity with which these offices are discharged, If the heart ceases to beat, or the lungs to act, the whole mechanism in its exquisite & wonderful arrangements instantly becomes arrested and in this arrest death finds its triumph, When the young girl arrives at the threshold of womanhood her whole

character is changed. new feelings are kindled, new hopes created, new life imparted; she enters upon a new mission, instinct tells her that she is now an active member of the human family, with sacred duties and no less sacred obligations imposed upon her.

This change in her physical condition brings about corresponding changes in her moral bearings. She is no longer a child sportive, frolicking and irresponsible. Her sex appear to be defined and there is in an inherent sense admonishes her that her dignity and reserve are not to take the place of levity and childish confidence.

As the period of puberty approaches

remarkable modifications will be observed in the physical appearance of the girl. She gradually loses the form and figure of the child and assumes through the rapid and successive development of certain tissues, the full and comely aspect of the woman! The uterine organs increase in volume, the pelvis receives an enhanced growth; the hips spread; the breasts enlarge; the pubes is covered with hair; there is a sensation experienced in the generative organs, to which the girl was previously a stranger, the direct consequence of the afflux of blood to them; and it is not unusual, at this period to find, more or less, mucous secreted giving rise to a moisture

And sometimes a discharge from the vagina, The changes which have been enumerated are generally more or less disturbance of the general system such as headache, restlessness constipation, loss of appetite, depression of spirits, neuralgia in one or other of its numerous forms, febrile excitement, hysteria and other grades of nervous perturbations. All these changes in the generative organs, this increased development of the tissues, and the constitutional derangements to — which allusion has been made, are but so many preludes to the institution of a function perhaps in many respects the most important in the economy of the female — namely menstruation —.

IX

The term Menstruation is defined to be a periodical or monthley discharge of blood from the vagina, continuing throughout the whole child bearing period, except during pregnancy & lactation. When this function becomes established it is the silent but emphatic declaration of nature that the female has arrived at maturity, & is capable carrying on the object of her mission - the reproduction of the species. The age at which this function is established is by no means — uniform, climate, temperament, constitution & race exert a great modifying influence.

Formerly it was supposed that the climate exerted a decided —

influence over the early or late appearance of the menses but further observations and statistics prove that the opinions in regard to this were very erroneous. Conditions which do however influence it are education and mode of living. Thus girls brought up in the country and live more in accordance to the laws of nature, menstruate later than those brought up in cities. This difference is readily accounted for since the former are more frugal in their habits, they retire early and rise with the sun. Their moral and physical education is usually calculated to improve the mind and fortify the body. They live more in the open air take more exercise and consequently their

nervous systems are strengthened and
exhibit in their personal appearance and
in their movements the evidences of
health; they are indeed portraits of nature's
own daughters. In contrast to this
picture we observe the pallid cheek and
wasted features of those interesting —
creatures who die to do the honors, and
constitute the gems of the magnificent
domiciles of the large cities. The life
of the young girl is moved and swayed
by the constant and exciting current
of city habits, and is but little more than
artificial - it is without substance
and destructive alike to health and happi-
ness and too often without a redeeming
feature to relieve the retrospect. When

we consider all these things it is easy for us to conceive why the catamenial function should occur earlier in girls surrounded by all sorts of follies and excitements, Moreover the nervous system is prematurely developed & the sexual organs sickly matured. hence the imperfect exhibition of the menstrual function,

Temperament & constitution under-given circumstances, will exercise their agency in the early or late appearance of this function, Girls of nervous aquineous temperament & robust constitution will menstruate, caeteris paribus, later than those of an opposite condition, The influence of race is also

very remarkable and appears to reside
all the other circumstances known
to modify the late or early development
of the menses. For instance it has been
shown that if a husband and wife natives
of New York should reside in the East-
Indies, no matter for how long a time
the daughters will continue to men-
struate in correspondence with the time
at which this function usually occurs
in the native homes of their parents,
and so also the reverse of this is true.
Causes of menstruation. Again & again
various hypothesis as to the cause of
menstruation were announced and it
is surprising to find how utterly absurd
some of the theories are, thus, some-

ascribed it to the influence of the moon, others say that it is due to general plethora of the system, while others again have seen fit to explain it by ascribing it to local congestion, besides these numerous other theories have been advanced, but none of them are worthy of consideration. Sufficient to say that women menstrate at every phase of the moon, Again we will find women in quite an opposite condition to that of plethora and still have their menstrual turnes in the more or less regularity. If the theory of plethora be true, why could not menstruation be completely arrested by the abstraction of blood, but we know very well from

observation that in certain engorged conditions of the economy loss of blood is sometimes the most prompt and efficient remedy to restore catamenial flow. When a girl menstrates it is because she has attained a point in her physical development which enables her to perform this function. Function in a physiological acceptation is the specific act accomplished by and peculiar to a certain organ. For example the lungs decarbonize the blood. The liver secretes bile. the kidneys urine & call these functions as already stated commence with the birth of the child and are more or less connected with the maintenance of

life, while the menstrual function is not material to life but to health. Now the true explanation of the cause of the menstruation consists in the elucidation of the simple question, viz; why is not the function of menstruation like the other functions of the body simultaneous with the birth of the child? As soon as the child is born the lungs perform their office simply because they are developed and ready for duty. The liver secretes bile and the kidneys urine, for precisely the same reasons. Now the difference with menstruation is this, that like other functions it is the offspring so to speak of organic development. And the reason why it does

not coexist with birth is that the organs which perform this function have not physiological existence; that is they lack physical development and have not become participators in the acts of the system. The essential and only organs of generation strictly so called are the ovaries which commence their physiological action at puberty. About this time the graafian vesicles containing the ovules will be observed to escape ordinarily with the menstrual blood. The ovulation as it is called is always accompanied by a veritable congestion in which the uterus and fallopian tubes participate, thus congestion results in the

escape of mucous & blood which pass
from the uterus through os tincae into va-
gina and thence externally. This is
popularly known as menstruation.
Menstruation however considered
from a physiological point of view
consists in the maturation of one
or more ovules every month ~~~~
accompanied by the discharge of the
mucous & blood. but this discharge
is not essential to the proper performance
of the function. Bearing these facts in
mind we can readily perceive how
a woman may become impregnated
without ever having menstruated.
numerous examples of which are on
record. The credit of the ovular theory

The following language is found—
"The generative powers of the human female are not limited to the production of a single ovum; on the contrary a number may always be detected in the ovary, under different states of progress. The loss or disappointment of one matured ovum is followed by the maturation of another, this in its turn becomes disappointed and thus an indefinite series is carried on throughout the period of generative capacity. But why should menstruation be periodical that is occur once in twenty-eight days instead of being

continuous and uninterrupted like most other functions of the system; Haller explained it by saying that it required this length of time for nature to repair the loss of blood sustained and before the vessels again become filled so that they could pour out their contents, This great man however like everyone else was liable to make mistakes as he did in this instance, If we examine an ovary in its congested state the matured ovules will be observed, and upon still closer examination embedded in the subjacent tissue, other ovules which are not matured can be detected, so in this way there is at

each month they cause a succession of ovules, Look where we will in nature the same wise provision is in every-thing presents itself to our observation and admiration, previous to puberty the ovaries are undeveloped and enjoy no action, in a word they are inert. So after the child bearing period terminates, there being no longer any necessity for ovulation, the ovaries atrophy and are no longer engaged in the affairs of the economy. "Menstruation is therefore the evidence which nature affords, that the female is susceptable of becoming impregnated, that she is in a state to carry out the cardinal office of her sex, the reproduction of her species, Another cause of

much controversy & very discrepant opinions has been the source & mode of production of the menstrual fluid — Many writers argue that it is simply an exudation, others on the contrary assert that it is a secretion, A failing to sufficiently consider the primary question, What is the menstrual blood? appears to have been the real cause of the contradictory opinions. What we are to consider is whether it is really & truly blood presenting all its elements & constituents or an entirely different fluid. It is true the catamenial fluids in the uterus & in the vagina differ greatly. but this can very readily be explained. In the uterus coming as it does directly from the blood

vessels it is really blood possessing all its elements in the vagina, on the contrary it loses its fibrin. For the reason that this latter product is dissolved by the vaginal mucous, which contains more or less acetic acid. From this it will be seen that the menstrual fluid loses its power of coagulation by the destruction of the fibrin. Occasionally however clots of blood is effused as to render the mucous insufficient to dissolve the fibrin; If it be conceded that the catamenial fluid contains red corpuseles, it is very evident that it cannot pass through the vessels by endosmosis or percolation, but can only escape by rupture of the

engorged capillaries. In cases of haemoptysis or haematemesis the blood can only escape by rupture of the gastric or pulmonary capillaries, we cannot explain the discharge of the menstrual blood in any other manner than this. The mucous mingled with the catamenial flow consists of epithelial secretion from the mucous membrane of the organ. With regard to the duration & quantity lost at each menstrual period no definite rules can be laid down. They will vary with individual circumstances idiosyncrasies of women, & various other causes. The quantity may vary from one to eight ounces & the duration be from three to eight days. Both of these

extremes mentioned may be normal
& in accordance with the general health,
the important fact to be remembered is
that the time & quantity of the menstrual
discharge are always to be considered
as natural, & in harmony with the
demands of the economy, unless
constitutional disturbances should
follow. Ds menstruation peculiar
to women. If it be contended that the
function as it exhibits itself in the —
woman with all its phenomena, its —
duration &c as exclusively recognized
in her, there can be no objection to the
doctrine, if perhaps we except the
monkey tribe for it is founded upon
undeniable evidence, But on the other

hand, it may be argued that dur-
ing the period of heat certain of the
lower mammalia do not have a
sanguineous discharge, this doctrine
may be objected to for it is contrary to
the evidence furnished by accurate
observation. Thus the slut during the
period of heat not only a congestion
of the parts is formed, but also a slight
sanguineous show, and during this
season of heat the same phenomena is
observed which is so characteristic of
the menstrual function of the woman
viz. the spontaneous maturation and
escape of the ovule, This important
function of the female organisme
continues usually until about the

age of from forty to forty five years.
Some women cease to menstruate earlier,
others later, as a general rule it may
be stated that the earlier a woman
commences to menstruate, the sooner
the menopause arrives & vice versa. This
menopause is a critical era in the
female life, for the reason that certain
morbid affections are apt to develope
themselves at this period. We comreadily
understand how this is. The uterus
by its monthly discongorgement effected
by menstruation has measurably pre-
kept the disease in check even though
there may have been a strong predispo-
sition to their development, but when
the climacteric arrives & there is no longer

this periodical unloading of the engorged vessels. The elements of trouble collect and become embodied in one or other of the formidable affections to which the organ is liable, Again not unfrequently diseases of the mammae are apt to exhibit themselves about this time on account of derivative influence of the catamenial discharge being suspended, If to these facts we add the various local congestions, as of the train, of the lungs, liver &c, we can easily comprehend why the various nervous perturbations and morbid phenomena should appear at the critical period, It is extremely comon for women to be troubled with metrorrhagia as the

period of final cessation approaches, hence it is of the greatest importance to discriminate between this sanguineous discharge, which is oftentimes nothing more than one of the ordinary results of the struggle of nature to terminate the menstrual crisis, and the discharge which is sometimes the prelude of carcinomatous disease of the cervix uteri; therefore it is advisable in all cases of metrorrhagia to institute a vaginal examination for the purpose of ascertaining whether or not it is connected with organic disease.

Should the female escape the dangers incident to this period of her life she

will as a general rule pass on with the enjoyment of health to a ripe old age.

The springtime of life is over and now she lapses into the cold shades of winter. One of her great offices has been completed. She has fulfilled her destiny in the birth and tender care of her children, and she now lives, still to guide them by her counsels, and rejoice in their position as useful members of society.

Such then are the three great eras of womans existence, each marked by its own striking peculiarities and each too surrounded by more or less peril

the eras alluded to are those puberty, childbearing, & the final cessation of the menstrual function."

Harvey F. Burgin

A Thesis

on

Acute Articular Rheumatism.

by

A. Frank D. Emack,

of

Beltsville Md.

1875.

Acute Articular Rheumatism.

The term rheumatism signifies a constitutional disease characterized by certain local manifestations, seated in the fibrous tissues. And as I have taken for the subject of my Thesis, that form which is known as acute articular rheumatism, I will endeavor to treat of it solely.

As its name implies, it embraces an affection of the articulations or joints. This affection

is of an inflammatory character involving the lining membrane of the joints, and differs from the ordinary inflammation in certain peculiarities, viz. that it rarely leads to the circulation of lymph, suppuration, or the production of new tissue.

The disease of itself rarely if ever proves fatal, and when complicated diseases have destroyed life, the visible lesions made manifest by post mortem examinations, are a greater or less amount of effusion, (sometimes opalescent,) within the articular cavity, with thickening of the synovial membrane, and infil-

tration of the surrounding tissues.

Aside from these analytical characteristics, it has been shown that there is an increased amount of fibrin in the blood. The inflammation does not confine itself to the fibrous tissues exclusively, but is often found in the fibro-serous tissues as of the pericardium and endocardium.

In acute articular rheumatism as in ordinary inflammations, heat pain, swelling, and redness appear. The disease affects one or more of the larger joints; generally several at a time; and the shifting from joint to joint forms one of its most

striking characteristics.

Clinical History.

In a majority of cases the disease is ushered in suddenly. The general fever and local manifestations occurring simultaneously; but in a small proportion of cases febrile movement more or less marked, precedes the local affection, varying in duration from one or two hours, to as many days. And on the other hand, it sometimes happens that pain and soreness of the joints precede all other symptoms.

The local manifestations are accompanied with inflammatory fever, the pulse is full and bounding

and rarely exceeds 90 per minute.

The temperature, is variable in different cases, vacillating between 102° and 110° Fahr. The skin notwithstanding the high febrile movement, is almost invariably covered with profuse perspiration, which emits a notably sour odor.

The tongue is coated with a thick dirty whitish colored fur, but is red at its tip and edges. The appetite is either lost or greatly impaired.

Constipation usually exists, though in some cases diarrhoea supervenes.

The urine is diminished in quantity, while its specific gravity is augmented, due to a disproportionate increase of

solid matter; and on standing deposits a reddish sediment.

The intellect is not generally impaired, unless there be cerebral complications; though slight delirium does sometimes exist.

The joints are exquisitely painful, and the slightest motion or pressure increases the pain in a manifold degree. The patients lie fixed in one position from which they are afraid to stir; they dread the touch of the physician, or nurse, and even the slight motion imparted to the bed by the footsteps of an approaching friend, seems to augment their already agonizing sufferings.

The joints most frequently affected are those which are least covered by soft tissues, E.G. The knee, the elbow the wrist, and ankle. Corresponding joints are often affected together, and when this is not the case, analogous joints either of the same or opposite side, are apt to affected. The most serious feature of this disease however, is its tendency to invade the heart, which in some cases is a cause of sudden death; in others of a chronic affection which eventually results in death; but generally the majority of cases once affected recover without serious consequences.

Of the cardiac affections occuring

as complications of acute articular rheumatism, endocarditis is decidedly the most frequent, the left cavities of the heart being especially liable to the affection.

Pericarditis is a much less frequent complication, its presence only existing in about one sixth of the whole number of cases; and when it does occur, endocarditis is almost certain to coexist.

The duration of this disease is exceedingly variable, much depending upon the gravity of its symptoms, the strength of constitution affected, the season of the year, the state of the weather, and the modes of treatment adopted. Indeed as

shown by Prof. Flint of Bellevue Hospital, and Dr. H. G. Sutton of Guys Hospital, acute articular rheumatism, when left to run its course, is a self limited disease.

This was satisfactorily proven by Prof. Flint while on duty at Bellevue Hospital in 1862. He had under his charge 13 cases of acute articular rheumatism, all of which he treated, with palliative and placebo measures alone; resorting to no active or abortive remedies.

As the result of this mode of management, (for we can scarcely call it treatment;) Dr. Flint gives the following statement.

"Of the 13 cases an endocardial murmur existed in 11, but the murmur

was limited to the base of the heart in all but 3 cases. In only one case was pericarditis developed, pneumonia occurring subsequently. The patient however recovered. The duration of these cases respectively from date of attack to convalescence, excluding the case in which pericarditis and pneumonitis occurred, was as follows.

In two cases under 15 days, in one case between 15 and 20 days, in three cases between 20 and 25 days, in three cases between 25 and 30 days, and in the remaining two cases 45 and 51 days respectively.

The mean duration was a fraction under 31 days." A statement of

41 cases subsequently published by Dr. Sutton, in which his treatment consisted mainly of mint water, and which about similar success as that of Prof. Hunt, has a strong confirmative bearing upon the discoveries made by the latter gentleman; and throws not a little light upon the imagined success of the various and numerous modes of treatment adopted by less modern practitioners.

The duration of acute articular rheumatism, as mentioned before, is exceedingly variable; it may last only for a few days, or it may exist for many months, and sometimes even assume the chronic form.

But as the pathology of the disease is often understood now than ever before, the treatment is of course more rational and successful; causing the great majority of cases to yield in from one to three weeks. One of the most striking peculiarities of the malarious poison is that it does not like the essential fever, pursue a steady continuous course from beginning to end, but is often marked by decided remissions of both local and general symptoms especially the former.

It not infrequently occurs that both general and local symptoms, disappear almost entirely, and the

inexperienced practitioner congratulate himself and the suffering patient, that recovery is near at hand; but alas! their enthusiastic hopes are converted into disappointment and renewal of the former pain, if not, and perhaps with increased severity. This may occur repeatedly during the course of the disease, rendering this form particularly disheartening to both practitioner and patient.

Pathological Characters.

The pathology of this disease is not yet fully determined; but from the almost constant metastatic tendency which it presents, and the

settled fact of there being in the blood an increased amount of fibrin, I think we may without further comment designate it a blood disease.

If this be so, the question now arises, what is the materies morbi in the blood that causes the local and general manifestations?

As to this, all pathologists have not yet agreed. It was once supposed to be due to uric acid, but an analysis of the blood of 40 typical cases of rheumatism, failed to [illegible] the presence of this principle in a larger amount than exists in health; while in gout the presence of this principle in excess is striking.

Dr. Prout conjectured that the materies morbi consists of lactic acid; this however is as yet hypothetical, or in other words it has not been satisfactorily proven, but as it is the most plausible theory yet advanced on the subject, it is generally accepted by pathologists and practitioners.

Some very striking experiments made by Dr. Richardson lend weight to this conjecture. He introduced into the peritoneal cavity of a healthy cat, a solution of lactic acid. In two hours the action of the heart became irregular, and the next morning she was found dead.

There was no peritonitis but marked endocarditis had been developed in the left side of the heart.

He also tried a similar experiment on a dog, causing death in two days, the post mortem revealing decided manifestations of endocarditis. There was no evidence of peritonitis, the only pathological change being dryness of the membrane.

There was no affection of the joints but this may have been due to insufficiency of time to produce that result. Another striking phenomenon which seems to lend force to the theory, is that when lactic acid is used as a remedy in

diabetes, it seems, in a number of instances I have been the immediate cause of rheumatism.

Causation.

It is the general impression among the laity, that acute articular rheumatism is caused almost entirely, from exposure to cold, and inclement weather. We are willing to admit that this may be a part of the cause, but by no means the starting point. In other words this disease must have for its origin that peculiar condition known as the rheumatic diathesis.

What this diathesis is none of us in the present state of

knowledge, are able to resist it.

But when it does exist, I know of no greater exciting cause than exposure to cold, and vicissitudes of weather.

It is in a large proportion of cases hereditary, though in some instances it is undoubtedly acquired.

Persons once attacked are always more or less liable to a recurrence of the disease. Acute articular rheumatism occurs much more frequently between the ages of fifteen and thirty, than at any other period of life.

After the age of thirty, unless the disease have previously existed, the tendency to it decreases with advancing age. The affection is

much more frequent in changeable climates than in those of greater stability; E.G. the inhabitants of the temperate zones are decidedly more liable to the malady, than are those of the torrid or frigid zones.

Diagnosis.

This is generally easy. There are however those diseases with which an inexperienced practitioner may be liable to confound it; those are gout, rheumatic gout, and simple synovitis.

At these I will first endeavor to give a few points of differential diagnosis existing between the disease in question and gout.

In the first place, the previous

itself in the metatarso-phalangeal articulation of the great-toe, and the joints of the toes and fingers generally.

The larger joints are not often included. The pain is generally greater even than in rheumatic fever, and is of a paroxysmal character; there is also a tendency to recover in from six to eight days. In gout, the febrile symptoms are as a rule much less severe, than in acute articular rheumatism.

There are numerous other points of differential diagnosis between these diseases, but I think for all practical purposes, those which I have given will render the distinction sufficiently easy in this case.

Another affection which may be mistaken for acute articular rheumatism is rheumatic gout, or as it has been proposed to term it, rheumatoid arthritis.

This affection is generally of a chronic or subacute character; but in the acute form it bears considerable resemblance to rheumatic fever.

The febrile symptoms are, however, less intense; and the metastatic tendency is very slight. There is no liability to cardiac complications.

And there is absence of that profuse perspiration which is so characteristic of acute articular rheumatism.

The next and perhaps the only

remaining disease with which acute articular (rheumatism) may be confounded is simple synovitis. In this affection the febrile symptoms, if any exist, are apt to be sympathetic. The local inflammation confines itself to its primary seat, and does not migrate to other parts, which is not the case with rheumatism. The absence of perspiration and its peculiar sour odor, the slowness with which this disease yields to treatment, and the hereditary predisposition to rheumatism, if there be any, are all points for consideration.

Prognosis.

Acute articular rheumatism per se

is rarely if ever fatal.

Death, however does sometimes occur during the course of the disease, but is due either to pericarditis, meningitis, or the plugging of the pulmonary artery by emboli, originating in the right side of the heart; or the coexistence of some other serious affection.

Endocarditis though rarely dangerous of itself, may produce structural lesions, which in a large proportion of cases, after the lapse of years, will cause serious cardiac disorders. Among which, the most frequent are regurgitation, hypertrophy, dilatation, and

cardiac debility. And these affections in their turn, not infrequently prove the immediate cause of death.

Treatment.

With regard to this division of my subject, I will take the liberty of inserting a quotation from Prof. Flint's admirable treatise on the principles and practice of medicine, in which he says.

"There is scarcely another disease in the nosology, the treatment of which during the last quarter of a century, has undergone such mutations as that of acute articular rheumatism."

Among the remedies which have been more or less popular during

the above named period may be mentioned the following. Bleeding, mercurialization, colchicum pushed to purgation, veratrum viride, opium, nitrate of potassa, acetate of potassa cinnamomum, antimony, hyoscyamus belladona, the various preparations of cinchona &c. &c. Indeed it seems that the major part of the materia medica, has been resorted to as a cure for this affection, which in former times seemed so intractable.

It is not my intention to enter into a consideration of the merits and demerits of the various modes of treatment adopted by former practitioners; for nearly every man

possessing a limited amount of knowledge on this subject, seems to have conceived his own course of procedure the best; but I with confine my remarks to those modes of treatment which at this time, seem most successful, and present themselves to me in the very limited state of my knowledge, as being most rational. It is my impression that when there is such a diversity of opinion, in regard to the treatment of a certain affection, we may rest assured that there is no specific remedy for that disease.

As the hypothesis that lactic

acid constitutes the materia morbi of rheumatism has met with such implicit favor throughout the medical world, it would seem most reasonable for us to resort to such remedies for its neutralization and elimination, as are most antagonistic to it. For this purpose, then, and those which have been used with most success are the alkaline carbonates. These agents act in a number of ways, in the first place, as direct chemical antagonistics to the poisonous acid contained in the blood. Secondly, by their effect on the secretions generally, especially that of the kidneys, causing its rapid

elimination. Thirdly, they act upon the skin, through which some diaphoresis is excited, and febrile heat is diminished. And lastly, but by no means least, they render the fibrin of the blood much less liable to coagulate and thus diminishing the tendency to local congestions.

These agents have still another strong point of recommendation over almost all others, viz. That when they are properly used, and without success, they give the positive advantage of doing no harm, if they do no good. Dr. Garrod who tested the success of these remedies in gout-one of the states; that the average

duration of the disease, after the commencement of treatment was from six to seven days; and in no case did heart complications arise after the patient had been for forty-eight hours under their influence.

Dr. Fuller states that of a hundred and ninety-four cases, treated by him with alkalies, not a single heart complication developed after the patient had been under the influence of this remedy for twenty-four hours.

It would be erroneous to infer from the foregoing that cardiac disorders never do occur after the patient has been under the influence of this treatment, but such cases certainly are exceedingly rare.

Of the alkaline preparations used in the treatment of rheumatism, those most in favor are the bicarbonate of potassa, the bicarbonate of soda, and the carbonate of potassa and soda. Of these, perhaps the most popular and efficient is the carbonate of potassa, as it is less irritating to the stomach, than the bicarbonate of soda, and is much more prompt in its effect on the system than the carbonate of potassa and soda.

The first and most important indication in the treatment of acute articular rheumatism is to bring the system under the influence of the alkali as early as possible, to do this I would give from one to two

drachms of the bicarbonate of potassa every three or four hours until the urine was rendered decidedly alkaline; after which I would reduce the dose to one half of its original quantity, or else in order to procure a more decided diuretic effect, and at the same time keep up the alkaline influence, I would give from one to two drachms of the Rochelle salts every four or six hours; care being taken however not to produce purgation, which would weaken the patient unnecessarily, and at the same time operate against the all important rule of rest, increasing his suffering upon every motion, besides exposing him to draughts and cold which are

in themselves exciting causes of the disease.

In addition to the above systemic treatment, it is well (especially in some cases) to make use of such local applications as will tend to relieve pain and promote rest. For this purpose fomentations such as flannel wrung out of hot water, or what is still better and very highly recommended by Dr. Pulley, a solution composed of from four to six drachms of the bicarbonate of soda or potassa, dissolved in a mixture of an ounce of laudanum, two ounces of glycerine, and nine ounces of rose water; the flannel being saturated with this solution, and kept applied to the affected joints; it is also well

in order to prevent evaporation, to keep the flannel covered with oil-silk.

Chloroform liniment, is also a very useful local application to allay pain. Friction unless "methodic", should in no wise be employed. After the acute symptoms have passed, should the joints remain swollen from the effusion within, this may be drawn off by means of blisters applied near the joints, but these should never be employed so long as there are any acute symptoms. It should be borne in mind during the course of treatment that the patients strength should be sustained by means of nutritious food, and tonics such as quinine and iron, and stimulants

if they be necessary.

As one attack of rheumatism seems to predispose to others, it becomes the physicians duty, as thoroughly impressed upon us by our venerable and highly esteemed Prof. McSherry, to advise the patient always to wear woolen clothes next the skin, their conducting power being much less than that of linen, also to avoid as much as possible all dampness and sudden changes of weather.

A. Frank D. Emack.
Bellsville,
Prince George's Co.
Md.

1875

Acute Pneumonitis.

Of the diseases affecting the respiratory system, pneumonitis from its frequency, fatality, and the necessity of an early diagnosis seems best calculated to repay the student of medicine for a careful study of, and a thorough insight into the phenomena attending its development and progress.

Anatomically pneumonitis is an inflammation of the parenchyma or lung substance, the air-cells, vesicles or alveoli, together with the bronchioles or terminal bronchial branches.

These air-cells or alveoli, with the bronchioles

[illegible] inflammation [illegible] [illegible] [illegible]

cession, or a single lobe on both sides.
This is called Double Pneumonia.
The inflammation most often extends
over an entire lobe. Sometimes when
the lobe is attacked secondarily, the in-
flammation, perhaps because death
occurs too early, is found to have extend-
ed only partially over a lobe.
This inflammation begins at a fixed
point and extends from lobule to lobule
until a whole lobe is invaded.
Most cases of acute Pneumonia begin at
night. The attack is abrupt; the first
symptoms are — a marked chill ac-
companied by rigors, febrile movement
with increase of temperature, although
coldness exists as a subjective symptom.

There is also pain, limited to a circumscribed space at or near the nipple of the affected side; a distinctive point as compared with pleurisy.
The pain is acute and lancinating more so in proportion to the amount of pleuritis present.
Combined with the above symptoms are: pain in the head, loss of appetite, thirst, prostration and heat of skin.
The pulse may range from 100 to 130.
The thermometer in the axilla in mild cases does not exceed 104°, under the tongue it varies from 99° to 103°, but in severe or fatal cases may run up as high as 106° or 107°.
A sudden increase of temperature denotes

the invasion of a new lobe.

Respiration increases in frequency, depending probably on the coexisting pleurisies, and the interruption of haemolosis in the heart-disease of.

In the 1st stage, cough is a more or less prominent symptom, but is sometimes wanting, is usually present at or soon after the invasion; it is painful in proportion as pain is a prominent symptom irrespective of cough.

The expectoration is at first scanty, transparent and viscid. It soon becomes in most cases, semi-transparent; adhesive has a reddish tint like iron rust; (rusty expectoration) due to admixture with blood in its passage from the small to the large

bronchial tubes. This is not always present; it may have a yellowish tint. Again it may contain blood in abundance; which, if dark colored is called the prune juice expectoration. occasionally the expectoration is entirely absent.

During the second stage; if the disease progress favorably, pain if it have existed diminishes, cough is less hard, expectoration is effected with more facility, loses its mucous appearance, becomes opaque, adherent, more abundant; is furnished chiefly by the bronchial tubes within the affected lung. It is abundant in proportion to the amount of bronchial membrane involved in the inflammation.

Tubercles, and of the minute tubes may be discovered by the microscope in the sputa. Respiration still remains increased, febrile movements continues, but is diminished, the pulse is small and deficient: owing to the obstruction in the pulmonary circulation, and the amount of material deposited by the blood in the air-cells.

If the disease progress unfavorably, and a second lobe become affected, there is rarely a chill, but the febrile movement is increased, respiration is more frequent with marked dilatation of the alae nasi, and with dyspnoea.

But even when a whole lung is affected these symptoms may be wanting;

and the system may be but little affected.

During the 3d Stage, when resolution intervenes, febrile movement diminishes, and sense, respiration becomes normal. cough disappears, expectoration less and less, appetite and strength return, and convalescence is declared.

But if the disease pass into the suppurative stage the pulse and respiration become more frequent and feeble, the strength fails and death takes place by asthenia. The accumulation of morbid products often contributes to the fatal termination.

Pleurisy, mild, active, or of the low muttering kind may occur especially

if the upper lobe is affected.
A circumscribed redness of one or both cheeks, distinctive, if hectic flush of phthisis is excluded, is often present.
In pneumonitis a herpetic eruption is not uncommon on the face, especially around the mouth.
Gangrene is rare, generally fatal, is distinguished by sudden and copious purulent expectoration, with characteristic fetor, and the appearance of decomposed pulmonary tissue in the matter expectorated.
In malarious regions, periodical fever may be conjoined. It may serve to mask the symptoms of pneumonitis. this is termed bilious pneumonitis.
Pneumonitis in intemperate persons

may bring in delirium-tremens, a serious complication. It may occasionally be developed in the course of typhoid pneumonitis; but typhoid symptoms may also occur in the course of pneumonitis, the latter being the primary symptom.

Occurring as a complication of bronchitis which is apt to be the case if the latter is epidemic, it has been called catarrhal pneumonitis.

The duration of pneumonitis if uncomplicated, dating from attack to convalescence, varies from 3 to 20 days. It is infrequent under 5 yrs of age, or over 60, more frequent between 5 and 10, occurs oftenest between 20 and 30 years.

The general modes of exploration, with the single exception of percussion, may all furnish signs in cases of acute lobar pneumonia. Uniformity however, does not exist, but this is rarely a source of difficulty in the way of diagnosis.

The chill followed by febrile movement; together with the pleuritic stitch, rusty expectoration, and a well marked crepitant rale, symptoms present in a large number of cases are amply sufficient for a diagnosis.

The characteristic sputa and crepitant rale are pathognomonic. The crepitant is not to be mistaken for the sub-crepitant rale.

In some cases, where the inflammation is

confined to a limited space, gradually extending over the lobe, the mucid expectoration may be the first to show itself, indicating the nature of the affection before any physical evidence is discoverable. In such cases, repeated examinations will in time reveal other signs of the disease. Again expectoration may be absent, or not among the earliest symptoms, but the presence of the crepitant rale will suffice to establish the diagnosis.

In other cases especially in children, where the expectoration is swallowed, and difficulty is experienced in auscultation; both of these symptoms are found wanting, when some delay is requisite until the symptoms and signs of the second stage

become developed.

Here in the second stage, the crepitation and subcrepitant rale may continue; but become less marked. The signs declare chiefly to the modified condition of the lung, to the accelerated respiration, dilatation of the alae nasi and lividity of the lips and face. On percussion, the sound over the affected side is dull, with marked increase of resistance and diminished elasticity. If the inferior lobe is most often diseased, the dulness is to be sought for in the great majority of cases, behind, in the lower scapular region. If however the upper lobe be invaded, the physical phenomena will be manifested in front, above the fourth rib.

behind in the upper scapular region and laterally above the inter-lobular fissure. If the cavity contain liquid effusion, the resulting dulness can be distinguished by aid of the other signs from pleuritis.

Of course if the inflammation extends beyond the lobe primarily affected, the local phenomena will be reproduced over the lobe or lobes successively affected. Either broncophony or exaggerated vocal resonance is present with few exceptions. The transition to the 3rd or purulent stage is not marked by the development of new striking physical phenomena. The evidences of resolution fail to appear. The signs of consolidation continue.

An abundant purulent expectoration occasionally succeeding a fetid odor may take place. Crepitant & bronchial rales coexist: the bronchial voice and respiration become less marked.

These signs with prostration, frequency and feebleness of pulse, delirium &c, denote an unfavorable termination.

Death generally takes place, not directly as a consequence of the extent to which haematosis is performed, but as a result of asthenia and apnoea combined.

Abscesses may form and evacuate into the bronchial tubes, leaving cavities. These seldom if ever give rise to distinctive signs.

The progress of resolution is indicated

by diminution of dulness and resonance on percussion, decrease of the intensity of bronchial respiration, cessation of bronchophony, return of vocal resonance, disappearance of vocal fremitus, succeeding marked improvement in the cough and respiration.

All the symptoms of pneumonitis, especially when consecutive, are remarkably latent at times. Cough, expectoration, pain, and increased respiration may all be wanting. Reliance is then to be placed on the physical signs. But even these may be in some extent delayed.

Such cases are, fortunately, rare; but when met with are still to be diagnosticated by the dulness on percussion.

Pneumonitis is to be practically diagnosticated from acute bronchitis, capillary bronchitis, acute pleuritis, dilitation of the bronchial tubes, acute phthisis and pulmonary oedema. Pain in bronchitis as contrasted with pneumonitis is dull, contusive, and situated beneath the sternum. Blood if present in the sputa is in points or streaks. The febrile movement is only moderate, nor is there much acceleration in bronchitis. The crepitant rale is wanting. Sonorous, sibilant, and mucous rales, rarely present in pneumonitis are there found in both sides. The chest everywhere presents its normal sonorousness on percussion.

The bronchial respiration, bronchophony exaggerated vocal resonance, and increase of fremitus are never produced as effects of bronchitis.
From capillary bronchitis the diagnosis is more difficult. Here there is greater suffering from defective haematosis, and more embarrassment to respiration than in pneumonitis. Subcrepitating and sibilant rales are present on both sides, the bronchial respiration &, are wanting.
The presence of fluid in the chest, absence of the crepitant rale, signs of a marked degree of pulmonary solidification, with the lesser intensity of febrile movement, absence of rusty sputa, and

slight cough serve to distinguish pneumonitis from acute pleuritis.
The bronchial respiration, broncophony, exaggerated vocal resonance, together with the dulness on percussion belonging to dilitation of the bronchial tubes, may simulate pneumonitis, yet the rarity of the disease, with a knowledge of the previous history of the patient will relieve the practitioner of all doubts as to diagnosis.
Cases of rapid and extensive tuberculosis may, by presenting many of the symptoms mentioned above in pneumonitis, for a time deceive; but a careful examination will soon discover the signs of one, and absence of symptoms of the other disease.

At a period when the question of Intemperance is so conspicuously claiming the notice and interest of the public, it will be well to consider the unfortunate Condition of the Inebriate in a Pathological Sense; and though I may not be able to reflect new light upon a subject that has been made a special study by some, yet I am convinced that good will result, and suffering be relieved by a more thorough and general investigation of this disease by the Medical Profession.

Owing to the almost universal ignorance as to the true Condition of the

In a scale, but little is done to relieve or palliate his sufferings.

There is, perhaps, no more important subject demanding the attention of the Citizen-Philanthropist at the present day, than that which is the subject of this Essay.

The question of Intemperance, or Alcoholism has claimed the attention of legislative bodies for Centuries. Laws have been enacted and efforts have been made to obliterate this evil, but with discouraging results. Is not the failure to solve this difficult problem, due in a great measure to a want of fully

appreciating the fact, that this insatiable desire for alcoholic drinks very frequently expresses a morbid condition? I think so and believe that were the public taught, and made to understand the disease theory, much might be done to relieve and cure the thousands who suffer, and, by properly educating the young, much might be done to strike at the root of an evil, that by-gone centuries have failed to reach.

Dipsomania does not consist in the mere habit of becoming intoxicated, but in the irresistible impulse that drives an unhappy being to do that which he knows to be wrong, and yet

to abstain is to inflict on himself a sense of overwhelming wretchedness.

Dipsomania appears in various forms, and widely different degrees of intensity. There is a periodic form in which the individual abstains for weeks or months from all stimulants, in fact frequently loathes them in the interim; and then is suddenly seized with an uneasy, listless and depressed feeling, which renders him incapable of application to business. In this condition, he drinks with the hope of relief and becomes intoxicated, and continues to drink to excess for one, two or more weeks perhaps.

The next stage is one of apathy and depression, with a loathing for stimulants, and he is a prey of remorse; regretting bitterly his having yielded to his malady, only to determine again to give way to the morbid impulse; but too often the same thing occurs on the appearance of another paroxysm. Such repeated attacks become more frequent and exhibit the pathognomonic conditions which represent confirmed drunkeness, or chronic alcoholism.

I might give a number of examples illustrative of the periodicity of cases of Dipsomania, that I had an

opportunity to observe, as they were partially under my care, during the past year, at the Maryland Inebriate Asylum. One will suffice.

A young man of unusual talent and ability, was sent to the Asylum for treatment. He is engaged in a large business, requiring great mental exertion: and is able most of the time to attend to his onerous duties regularly, and with marked ability.

About twice a year, however, he looses several weeks' time by remarkable seizures of an insatiable desire for alcoholic stimulation, which is the result of a

morbid impulses. Liquors of all kinds are distasteful to him; yet he deliberately leaves his business, wife and family, and a home, where wealth supplies every luxury, about once in six months, and becomes thoroughly intoxicated, which results in his being placed under restraint and treatment. In the course of a few weeks, he returns to his business again, with a conscious loathing of alcoholic beverages, and being competent once more to attend to his duties, accepting again the trust and confidence of his associates, who know him so well, that their confidence is only

temporarily withheld. When being questioned about his premonitions at such times, he can give no adequate description of the sensations that prompt his excess, except that it is a series of most wretched sensations that alcohol alone can dissipate; restlessness, loss of sleep, a sense of wanting something - a craving for he knows not what, with a gnawing sensation at the Epigastrium.

It has now been about a year since he was under treatment, showing an improvement.

It may not be proper to designate this malady as Dipsomania, until

the chronic stage is reached, when the patient cannot be within reach of liquor, and resist its use; or, when he cannot converse or think about it, without the impulse becoming imperious and demanding satisfaction. He will in this condition, disregard every thing, to obtain it. He will sacrafice comfort, reputation, and the claims of affection; consign himself and family to misery and disgrace, to gratify this perverted propensity for alcoholic drink.

Can any one doubt the existance of a diseased condition, lying behind all

these symptoms? Can an intelligent busi-
ness man, for example, who is the victim
of such an irresistible impulse, with
fortune, family, honor - every thing at
stake, attribute it to any thing else? Can
his physician do other than recognize
a morbid element, however concealed,
and use his efforts to discover and relieve
it? I have observed numerous cases
of chronic alcoholic excess, where the desire
for indulgence has seemed insatiable,
from a quiet gentleman who may appear
well, under the restraints of institution
life, to the wild case of almost maniac-
al excitement in the midst of a debauch.

A patient who I now call to mind is a gentleman of fine presence, marked intelligence, and as I have been informed, of extraordinary business capacity.

He is now suffering from a chronic form of alcoholism, and from a careful study of his case, the prognosis would be very discouraging; believing, as I do, that he will never be able to control the desire for alcohol in excess, without the restraints of an Institution. And yet I must acknowledge, meeting with cases frequently, which have exhibited the most aggravated symptoms, who rapidly recovered under treatment and are

doing well.

A pious man, who is afflicted at times with out-breaks or seizures of the chronic form of the disorder. Said "God gives me all the light I need, to see my duty, but does not grant me the power to do it." In this case there is almost complete paralysis of will.

Many illustrations proving the utter inability in such cases, to resist the temptation to swallow alcohol, if it can be obtained, might be cited.

They have come under my own observation, and have been from all classes of society; from those surrounded by

squalor, wretchedness and poverty, to those who are surrounded by all the luxuries that wealth can furnish. The same diversity was also apparent in the mental state, from those who are but a degree above the drivelling idiot, to the most brilliant and cultivated intellect.

William B. Carpenter M. D. in his prize essay "On the use and abuse of Alcoholic Liquors" says "Of the Chronic form of Dipsomania I have seen only one case completely cured, and that after a seclusion of two years duration."

"In general it is not cured, and no sooner is the patient liberated, than he manifests

all the symptoms of his disease."

"Paradoxical though the statement may appear to be, such individuals are the same only when confined in an Asylum."

This certainly does not correspond with my observation; for although there is obviously less hope of relief in Chronic Cases, yet I cannot think their condition so hopeless as the writer would make them. I remember several who were constant and habitual drunkers, and should think in every sense of the word, Chronic Cases, who after five or six months treatment, were cured, as I understand that term; viz. enabled

to attend to business as they had not been able to do for years previously. One case, where the mental application was necessarily greater than ever before; and, although he had been a constant drinker for years, accomplished his work without the use of alcohol in any form.

Dr Carpenter's observations did not extended to Inebriate Asylums, as such institutions do not exist in England, and it is not surprising that his experience should be as he states it.

Causation. Under this head much has been written by able Pathologists, Physiologists and close observers. There are several

cases on record where an injury to the head, occasioned an irresistible desire for alcoholic stimulation. By this the brain would seem to be the seat of disease. From my own observation I am inclined to the belief that with the nerves of the stomach rests the seat of the disease, in many cases, especially, in persons of acute moral sense, who do not drink liquor for the love of a spree, but to supply a physical demand for relief; (and yet that there is, as in cases of accident, just referred to, a brain source of the disorder there can be no doubt.) In questioning such, they are apt to refer to a peculiar gnawing sensation at the

"pit of the stomach," which is so persistent and distressing that they do not possess the will power to abstain from using alcohol, as the only known relief.

That some persons have inborn tendencies to certain diseases, is not disputed, and I have no doubt that the majority of the sufferers from Dipsomania inherit a predisposition to it. Inebriates form but a small percentage of those who use stimulants as an adjuvant to their food.

The man who is unconscious of the seeds of disease, lurking in his organism, complies with the social customs of the day, and when invited to take wine, another

alcoholic beverage at [illegible] to the, soon lights up or developes a [illegible] malady- and wonders how it is that [illegible] friends may drink with impunity, while he can not taste spirituous liquors, without using them to excess.

In my opinion, it is not necessary for the parents, one or both, to be intemperate, that the Son shall inherit a predisposition to Dipsomania. They may transmit a diathesis, which the use of alcohol kindles into a morbid craving.

A young man may be educated by pious parents, and taught to abstain from the use of alcohol in any form; may find

himself at his majority in a large City, with every inclination to do right, and yet experience a constant struggle to accomplish his well-formed purpose.

Led by the customs of the society in which he mingles, he takes a glass of wine at table, or ale, and finally brandy; the latter becomes, in a very short time, the only thing that can satisfy his cravings.

He finds that he has unconsciously developed a disease, that after many a debauch, and as many futile efforts to control it, he finally, hopelessly, but voluntarily, seeks the advice and treatment of one expert in this specialty, and discovers or

the first is that he is the victim of a disorder, which he must endeavor to cure.

He secludes himself from his associates, and his tempters for a few months, builds up his system with nervous tonics, food, and suitable occupation, his will power returns, his moral sense re-asserts itself, and he is **Cured.** This is a typical case of which I have knowledge, where neither of the parents ever indulged in alcohol to excess, and yet from a careful study of the history of this case I can form no other opinion, than that there existed a diathesis, which rendered its possessor liable to Alcoholic excess, which was soon developed upon using its Companions

the same circles, and imbibed as many or more so than himself escaped his unfortunate fate. The alcoholic diathesis existed in him, but did not in them.

Treatment. The treatment of Chronic Alcoholism may be divided under two general divisions - namely Moral and Physical. For the Chronic case. The Dipsomaniac; prompt and decided discipline of mind is necessary; to direct the thoughts, engage the interest, and fix the purpose of the mental nature in new channels. and thus, by exercise, strengthen those qualities of mind which have relaxed under the demoralizing

attack of mental excess.

Employment - Culture, especially in the direction of the higher tastes is important, the patient should be surrounded with every thing that can invigorate and purify the asthetic qualities and promote self respect. On the approach of a paroxysm, he should be at once restrained from indulgence, and one evidence of a returning moral sense, and will, may be looked for in his request to be restrained, and his entire willingness to submit to seclusion, till the seizure disappears. During such seclusion, it is necessary to promote quiet and repose as far as possible, by the administration

of such drugs as the intelligence and experience of the practitioner may suggest. Chloral Hydrate in full doses, will almost certainly produce sleep. Sleep, suitable diet and rest, long enough to establish the habit of abstinence, and a renovation of moral sentiments, and the growth of a new life, important if enough treatment.

While I recognize drunkenness in many cases, as the result of evil impulses in individuals of low moral tendencies, and I have endeavored to demonstrate in this my essay the fact, (which is established by some) that many are afflicted with a morbid element in their constitution that

consciousness to a disease, who, by proper care and treatment, may be redeemed; and returned good and useful members to society.

Many noble minds now suffering from this malady, might be saved, if they could be brought to realize their true condition; to recognize the fact that they are afflicted with a disease, that is amenable to treatment, and voluntarily to seek and submit to restraint and the means for their restoration, set forth in this essay.

Respectfully

Wm G. Harris M.D.

1875

A Thesis

ON

The Indications for the Extraction of the Teeth

and the Operations for their Removal.

OFFERED TO

The Faculty of the Medical Department

OF

The University of Maryland,

By

William J Arnold,

of Maryland.

The Indications for the Extraction of the Teeth, and the Operations for their Removal.

The operation for the extraction of the teeth is generally regarded, at least by physicians, as of comparatively little importance, and yet the accidents that daily occur by the hands of ignorant or unskilful persons, under it of more dread to one about submitting to it than almost any operation of equal importance. The extraction of a tooth is an easy and safe operation if done by a skilful hand, and with suitable instruments but if by an unskilful operator or with instruments that are not suited to the teeth [illegible] with

dismissed with the assurance that the root cannot be removed — to suffer for weeks and months with that worst of all torments, and with but little confidence in the ability of any one to relieve it.

It is really surprising that this operation which is certainly performed more than all other surgical operations combined, and one of the first which a young physician will be most likely called on to perform, and which if badly done may be capable of doing as much harm as many others which are considered more important, should receive so little attention in our Medical Schools. If touched upon in the course of lecture it is [illegible]

[illegible] [illegible] [illegible] [

Before attempting to use any instruments for the extraction of the teeth a distinct, and definite knowledge of their anatomy is indispensably requisite, in at least so far as their external forms, and their articulations are concerned. And some knowledge of the pathology of these organs is undoubtedly required for to extract a tooth because a patient tells you that it is giving trouble would be in many cases to deprive one of a valuable member, and to give no relief whatever.

I now propose to give some idea of the shape of the teeth — of their articulation, and of the causes that call for their extraction — to describe the instruments used in the operation, and th

manner of using them with the least exertion, so as to do the least possible injury to the surrounding parts, and consequently, to inflict the least amount of pressure pain, and the suffering to the patient.

Dentia in common with most of the lower animals is supplied with two complete sets of teeth — a temporary set which is adapted to the wants, and necessities, and to the size of the jaws during infancy, and childhood, and a permanent set which is better suited to the wants of the organism during adult life.

The temporary set consists of twenty teeth — ten in each jaw — divided into their classes — incisors, which the

are four — Cuspidati two in each jaw and four Molars. When the permanent teeth are ready to take their places the roots of the temporary ones are absorbed, their connection with the gum is loosened, and they fall out or are removed to be immediately replaced by the permanent ones.

The shape of the temporary teeth corresponds closely with the permanent, but that they are smaller, and the roots of the Molars are thinner, and more divergent so that with this exception one description will apply to both.

The permanent set consists of thirty two teeth — sixteen in each jaw divided into four classes, each having [illegible]

distinct and definite forms — namely four incisors — two canines — four bicuspids, and six molars in each jaw. They vary much in their shape, and size in different individuals — some having long and slender teeth, and others as short thickset persons having short teeth with broad crowns which are usually very firmly set in the jaws, and consequently require much effort in their removal.

Each tooth for better convenience of description is divided into three portions, the crown, the neck and the root. The crown is that portion which extends from the cutting edge or grinding surface as the case may be to the gum. The root [illegible] portion which is imbedded [illegible]

[illegible], and the neck the constricted part between the two.

The central incisors are situated on each side of the median line, and are of a quadrilateral form but greater in their length than breadth. The average size is about one third of an inch in length by about one fourth in width. They are much thicker at the gum from before backwards than at the cutting edge, and present the appearance of a wedge. The roots of these teeth are about three quarters of an inch in length, and are of an irregularly conical form.

The lateral incisors are considerably smaller in the same mouth than the centrals. The roots are nearly of the

same length but are more compressed laterally.

The canine are next to the lateral incisors one on each side, the crowns of these teeth are about the same length and width as the central incisors, but they are thicker at their neck from before backwards, and stronger than the incisors, and instead of being like them broad and straight across their cutting edge are tapered for about one third their length to a blunt point, the roots are longer and thicker than those of any teeth with single roots, and taper more to a point. They are usually more firmly articulated and require more force for their removal.

The bicuspids are next in order, and of them we have two on each side — they are of an ovoid shape and with compressed on their approximal sides, and are a little smaller at the gum than at their grinding surface which is divided by a groove into two or more cusps. The first bicuspid has most commonly two roots one external the other internally, the second bicuspid generally has but one which is compressed or grooved on its approximal sides, their length is about the same as the incisors.

The upper molars are the last in order and consist of three on each side, the first is the largest and

third or wisdom tooth much the smallest. The crowns of these teeth are nearly conical in shape with the corners rounded off, their surfaces are a little more than one third of an inch in extent and their grinding surfaces are worn and divided by grooves into a number of cusps. They usually have three roots, and of these two are placed externally and one internally, of the external roots the anterior is much the larger and they are both placed perpendicularly with the crown - The internal root is about as large as the anterior root and diverges considerably from the other two. They are all

a more or less conical form but the two external are sometimes flattened from before backwards. The roots of the third molar or wisdom tooth most commonly converge to form a single root which is divided by longitudinal furrows so as to show the rudiments of three roots. They are more usually placed in an abnormal position to the line of the arch than any other teeth, and when it does occur they are generally found with their grinding surface towards the cheek.

The crowns of the lower incisors are narrower than the upper but about the same length — The [illegible] the same length as [illegible]

tened laterally.

The cuspidates are very similar in crown and root to the upper but are smaller and with the root flattened somewhat.

The lower bicuspids are about the same length as the upper but a little more slender. In form they are nearly the same but the roots are somewhat compressed.

The crowns of the lower molars need no description as they so nearly resemble the upper — they have usually two roots an anterior and a posterior, they are broad and flat, and thinner in the centre than at their margins. The anterior root is somewhat larger and thicker than the posterior. They usually [illegible]

bifurcation more or less to their extremities, but sometimes after diverging somewhat they again converge, and so enclose that part of the alveolus which forms the septum between them — a circumstance that complicates their extraction and renders more force necessary.

The roots of the wisdom teeth are usually more or less curved, and generally are turned backwards until their points look towards the angle of the jaw. They are shorter than those of any other class.

The teeth are held in the jaw by a kind of articulation peculiar to themselves. Each root of a tooth has a cell in the alveolar process corresponding in depth and form to the [illegible] length.

These cells are lined by a dense membrane called the periosteum, which is reflected on to the tooth — this with their roughness and irregularity of form holds them very firmly in their places, so that in a healthy condition they require considerable force for their removal.

The removal of a temporary tooth is called for when the permanent tooth is about emerging from the gums, or has made its appearance either before or behind the corresponding temporary tooth, and when the cost of this tooth does not give sufficient room an adjoining one may have to be removed but this requires great consideration for after an apparently insufficient space the permanent tooth will sometimes

with the normal action of steady pressure.

Pain in a temporary tooth which cannot be relieved by any of the usual remedies.

Alveolar abscess or necrosis of the alveolar walls are also indications for their extraction.

When the permanent teeth are concerned the following conditions point unequivocally to their removal.

1st In any decaying tooth the crown of which is so far destroyed by caries that it cannot be restored to usefulness by being properly filled, should be extracted, unless the tooth be one of the upper incisors or cuspidati the roots of which are often important, on which to engraft artificial crowns.

2nd Any tooth whose pulp is exposed, under either the tooth or the caries in the tooth is

so situated that it is impossible to get at, and to thoroughly cleanse its root as well as the cavity caused by the decay.

3rd All aching teeth that have caused abscesses — that have produced or are producing such lesions in the surrounding parts as precludes reasonable hope of cure.

4th Such aching teeth as have exposed or inflamed pulps or may be painful from other causes, and have lost their antagonist in the other jaw, and are thereby rendered of little service.

5th All roots of teeth that give pain from inflammation or where [illegible] produce inflammation in the surrounding parts or are causing injury in any way.

6th Wisdom teeth [illegible] sufficient room in the jaw for their development, and which from that cause are producing inflamation and pain,

7th All painful teeth unmistakably affected by Exostosis, The diagnosis of this form of toothache is extremely difficult, but when the deposit is large it makes a protrusion of the alveolus that can be felt with the finger, The surest test is rapping the tooth with some small hard instrument which will most probably increase the pain for the time,

The other causes will in most cases be apparent on close inspection, but sometimes will require much attention and close discrimination before the diagnosis can be fully and correctly made,

When the pulp is exposed and inflamed, it can be readily ascertained by carefully cleansing the cavity, when the pulp will be found injected and exquisitely painful upon the slightest touch.

Where the tooth is painful from inflamation of the periosteum, it will be slightly loosened in its socket, and although not apparent to the observer the patient will tell you that it is longer than the surrounding teeth, which is really the case as from the thickening and injection of the membrane it is forced from its socket, - The gum around its margin will also be inflamed.

In incipient abscess the foregoing points hold good vesicles which are instrument if inserted in the cavity of the tooth, readily

passed into the pulp chamber without pain, as the pulp is thoroughly disorganized.

When it is decided that a tooth should be extracted I do not know of any circumstances that will contraindicate its immediate removal, though some such causes are usually mentioned by writers—as—

Much irritability of the parts immediately connected with the teeth,

Extreme nervous irritability;

General debility,

Pregnancy and other uterine irritations,

In every case where the operation is called for all possible care, and gentleness should be exercised but so far from these conditions calling for delay I think they demand its immediate performance,

There is no better established rule in surgery than that the readiest way to relieve disease is to remove its cause. I cannot imagine a readier way to relieve instability of the parts than to remove the teeth that are causing such instability. Can any one conceive a clearer cause for general debility or nervous irritability than an aching tooth which has occasioned loss of appetite, loss of sleep and rest, from the intense pain. Under no circumstances would I hesitate to extract such teeth, and would expect immediate improvement in the patients condition.

Where pregnancy is concerned there is more ground for differences of opinion, for there is no doubt even sympathetic

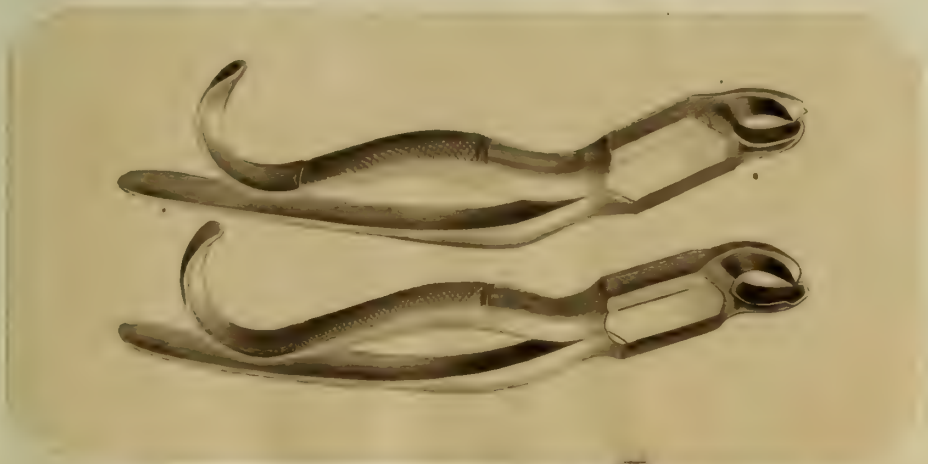
connection between the uterus and teeth, as shown by the pain reflected to the teeth and occasioned by this organ when in a gravid condition, still I cannot consider an ordinary case of pregnancy any reason for not performing the operation, for I think the loss of rest and sleep caused by the vomiting would be more likely to produce abortion than the shock of the removal, I have extracted many teeth for women in this condition — have never seen any bad effects from it, and shall continue to do so until I have good cause to change my opinion.

In pregnancy to extract teeth sometimes the forceps will be required, but cases may occur in circumstances under which I would

than these will be found necessary - They consist of two pairs for the upper molar teeth - one for the upper wisdom - one for the lower molars - one straight forceps for the upper front teeth - one for the bicuspids and one root forceps, Besides which two or three of different shapes with crook bill beaks may be required for extracting roots which are deeply imbedded in the alveolus,

The upper molar teeth having three roots the blades of the forceps to fit them must have entirely different shapes, The external beak having two roots to clasp must be of a double concave form, with a point in the centre to pass between the roots - The internal beak is a simpler

concave as it only has one root to grasp,
For better adaptation the ends are bent
at a right angle from the joint, and the
handles are thrown down so as to bring
the hand in a line with the axis of the
tooth, One of the handles has a curve to fit
around the little finger which prevents
slipping, and gives a firmer hold for the hand
and as they are made into right and left
can only be used for their designated sides.

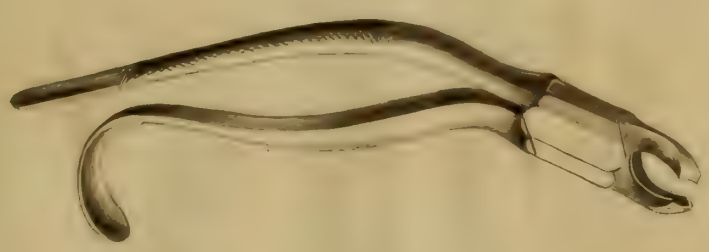


As the roots of the upper incisors with

usually converge to form a single one it is plain that the beaks of the forceps for their extraction must both be concave, the beaks are on a line with the handle, and have a double or bayonet curve as this is found most convenient to reach these teeth that are usually situated on a higher level than the second molars, behind which they are seated, the handles may be straight or for better security one of them may have a curve for the little finger.

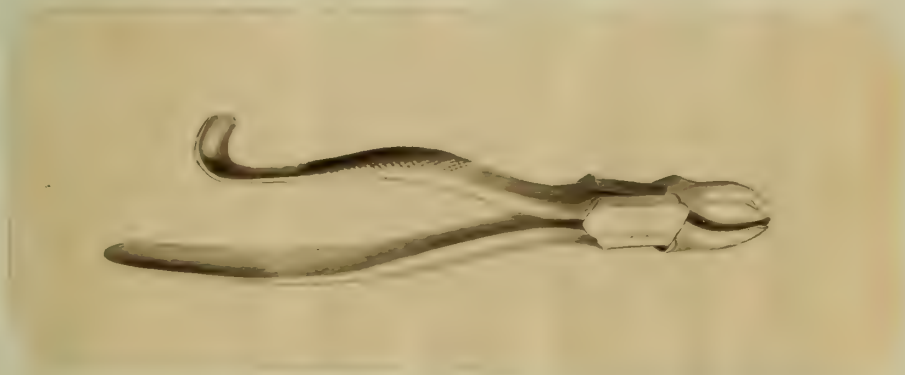
Each of the beaks of the lower molar

forceps must be a double concave, as they each have to grasp both roots of the tooth. They have a point in their centre which passes down between the roots, and fixes them more securely on the tooth. The beaks are thrown down at an angle of 45° and the handles are bent sidewise so as to bring them to the side of the patient, and more under command of the operator. One of the handles has a curve so as to better fit the hand, and one pair may be used for either side.



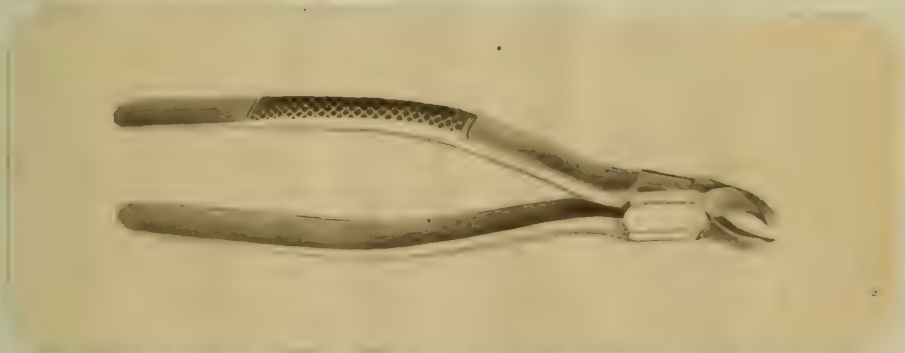
The upper incisor forceps being used

on teeth with single roots is concave on both beaks, and may be used in extracting the incisors, canines, and in some cases the bicuspids in the upper jaw. As the canine teeth are very firmly set one of the handles of this forceps has a curve to fit the finger, so as to exercise more force in their application.



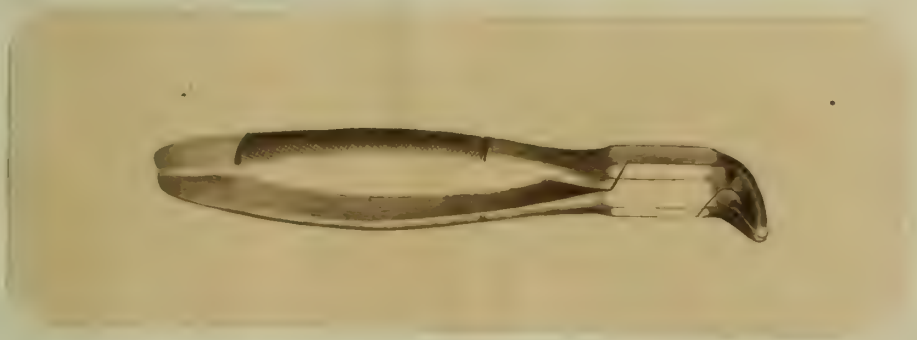
The bicuspid forceps has concave beaks which are bent at an angle of about forty degrees, the handles are straight so that they can be used in the upper

or lower jaw. They are also of considerable service in extracting the lower wisdom teeth.



The root forceps most ordinarily used is shaped like the bicuspid forceps with the exception that the beaks are very much narrowed. It may be used for extracting the lower incisors and for roots in any part of either jaw.

A curved tooth forceps with the beaks bent at a right angle to the handle is often very convenient for roots in the lower jaw that are deeply imbedded in the alveolar process, and especially when they are curved distally or behind an adjoining sound tooth.



For roots that are far back in the mouth in the upper jaw, a bayonet shaped, root forceps with the curved side or cutting beaks is often extremely useful, for in using them the beaks

are in a line with the [illegible] upper end to the handles, so that they may be pushed up on the root or alveolar process, without danger of their slipping backwards that there would be if the heads were at an angle,

The points of the instruments should be thin, so that they can be pushed up between the tooth and gum at least ½, if not a little beyond the alveolar margins; and should not be made unyielding, but sufficiently strong so as not to give too much under the hand,

[illegible] success [illegible] will [illegible] /
[illegible] [illegible] [illegible] of the [illegible] [illegible], [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] possessed, and
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] is going [illegible]
to do to inspire the patient with Confidence,

Anxiety to operate — to do it quickly — timidity
or a want of confidence in his own skill,
is pretty sure to excite suspicion, and a
want of confidence on the part of the
patient, while on the other hand a threat-
ening & decided manner may excite disgust,
and if [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]

[illegible]

calm and confident.

When called upon to extract a tooth, a thorough examination was to be satisfied that the tooth which is complained of is really the one that is giving trouble, for to take a patient's word in this regard, would be in many cases to make a terrible, and unjustifiable mistake, as patients are often themselves deceived as to the tooth that is causing uneasiness.

After being satisfied that the tooth should be extracted it should be carefully examined, in regard to its strength — the firmness of its articulation — the probable force that will be required to remove it and the instruments

[illegible] adapted to effect it.

Suppose the tooth to be removed to be a superior molar on the left side. The patient being seated in a slightly reclining position, the operator stands on his right, and a little to the rear, with his left hand encircling the patients head, palm resting on his cheek, and thumb and forefinger separating the lips. The right hand passes above the instrument and grasps it from below — the instrument being the one with the point in the beaks corresponding to the side from which the tooth is to be extracted.

It is to be lightly placed on the tooth, and pressed up beneath the gum until it reaches the alveolar process, and the

point is well in the bifurcation of the two external roots, when the forceps is to be closed, so as to grasp the tooth firmly. A movement in and out should now be given it, so as to break up the connections of the periosteum, always remembering that if moved towards the cheek first, it will be detached more readily, as in that case there is only one internal root to direct the force against. When its attachments are broken up a very slight traction force will remove it from its socket. Much traction force should never be exerted on a tooth, for should it suddenly give way the forceps would strike the opposing teeth, and might do them irretrievable damage.

all motions that are made, even if a tooth should be made slowly, and deliberately. It is a good rule never to move the hand unless followed by the eye, as then when likely to do damage to the tooth or surrounding parts, the movements may be discontinued.

In extracting the upper wisdom teeth the forceps selected should be the one suited to those teeth, and the position of the operator the same as last described, which is, in fact, the most convenient one in nearly all cases. These teeth require less force than the first or second molars which should be applied in the direction of their axis. that is if the crown is directed towards the cheek, the movements should be made from the inside, towards the outside.

For extracting the upper bicuspids I usually find the forceps with straight beaks the most convenient, It should be surely placed above the constricted portion or neck, and the movements which are to be made in and out, should be steady, firm, and very gradual, as these teeth are more easily broken than any others in the mouth, particularly the first, which generally has two roots, and is consequently more firmly placed.

The same forceps is used for extracting the upper incisors, and cuspidati, The beaks should be placed up to or a little above the margins of the alveolar process, and a rotary motion given them sufficient to sever their connection. The roots of these with being of a conical form, this motion is readily made

and is much less liable to fracture the tooth than if they were pressed backward and forwards.

The roots of the lower incisors are long, slender, and much flattened laterally, so that a rotary motion cannot be given them, consequently they have to be moved very carefully forwards and backwards, until their connection is thoroughly broken up.

The rotary motion can be depended on almost entirely for the lower cuspidati, as their roots are so nearly round as to offer no obstacle to this force being used.

The lower bicuspids much care in their removal, the forceps to be used having the beaks at a slight angle with the handle. The beaks should be placed as far down on the tooth as possible, and directly in a line with its axis. The

tooth is to be moved in and out gradually, until its connection with the jaw is torn asunder.

Too much caution cannot be exercised in removing the lower molar teeth, for from the divergence and convergence of their roots, they frequently inclose the septum of bone between them, and unless the roots will give sufficiently to pass, it has to be removed with them or else one of the roots breaks off and remains behind. Breaking them is inadvisable under this circumstance, and should not be changed as a fault of the operator.

Very little if any tactile force should ever be applied to these teeth for should they leave the socket suddenly, great harm may be done to the upper front teeth against which

the forceps will strike fiercely, after their union is broken by sufficient motion in and out: they may, instead of being lifted straight up, be made to describe part of a circle, and so pass out from between the other teeth on the outside.

The lower wisdom teeth from the fact that they occasionally are imbedded in the ramus of the jaw, and seldom have their crowns entirely above the alveola, require considerable of an operation before the forceps will grasp them. In these cases the duck bill forceps is used to cut away the process around them, until the neck of the tooth can be reached, when they may be extracted without much trouble.

No special rules can be given in regard to the selection of a forceps for extracting roots,

Requires considerable discrimination to determine which is best suited, and must depend on the knowledge and tact of the operator. When the break is as high as the margin of the bone a smaller pair forceps will be most appropriate. To use this instrument an incision must be made in the gum down the centre of the root, and in a line with it. The gum is then to be dissected from the alveolar process so that the forceps may be pushed at least one fourth of an inch above its margin, when a slight force applied to the handles will cause them to part their way through so as to seize the root, which may then easily be removed when so much of its support has already been taken away.

When the crown of a molar tooth is broken

off the roots will in most cases have to be removed separately. One point of the forceps is to be placed on the outside, and the other between the division of the roots, so as to grasp a single root which may be removed with little effort.

The forceps being made with thin beaks will separate the gum from the tooth, so that the use of the lancet may be dispensed with, except in the case of roots, where it is absolutely necessary to get the instrument above the margin of the alveolar process, and then it must be used freely.